

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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BEFORE THE PRESIDING OFFICER

In the Matter)
) Docket No. 40-3453-MLA-3
ATLAS CORPORATION)
) ASLBP No. 99-761-04-MLA
)

NUCLEAR REGULATORY COMMISSION STAFF'S
ANSWERS TO THE QUESTIONS POSED BY THE
PRESIDING OFFICER IN THE JULY 30, 1999, ORDER

By Order of July 30, 1999, the Presiding Officer in this proceeding directed the Nuclear Regulatory Commission Staff (Staff) to answer questions set forth therein. The Staff's answers are set forth below.

QUESTION 1

In responding to the Presiding Officer's initial questions, the Staff did not answer, inter alia, questions 3, 4, and 5. Rather, the Staff disagreed with the one or more of the assumptions in the questions. Please answer questions 3, 4, and 5.

PREVIOUS QUESTION 3

Assuming the substance of proposed license conditions 41A, 41B, and 41C in Staff Exhibit G relates to groundwater remediation and is part of the same materials license amendment action initially noticed on April 7, 1994, and, assuming further, that the scope of the Commission's April 7, 1994, notice did not include groundwater remediation and the agency subsequently expanded the scope of the materials license amendment action to include matters relating to groundwater remediation, when and how could the Petitioners challenge the proposed license conditions or raise other matters regarding groundwater remediation?

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ANSWER

In order to ascertain Petitioners' right to request a hearing under the assumptions posed by the Presiding Officer, one must look to the pertinent regulatory provisions. The assumptions set forth by the Presiding Officer are that (1) the scope of the April 7, 1994, *Federal Register* notice concerned only reclamation, (2) the Staff subsequently expanded the scope of its review to include matters pertaining to groundwater remediation, mediation, and (3) the substance of license conditions 41A, 41B and 41C relates to groundwater remediation and is part of the license amendment noticed on April 7, 1994. Because the license conditions are assumed to be part of a licensee-initiated amendment, the provisions of Subpart L would apply, according to 10 C.F.R. § 2.1201 (a) (1). The timing of requests for hearings under that subpart are governed by 10 C.F.R. § 2.1205, which provides that hearing requests must be filed within thirty days of the agency's publication in the *Federal Register*.

Under the assumptions posed by the Presiding Officer it would not have been possible for the Petitioners to file a timely hearing request on a remediation issue such as the date on which the CAP must be submitted based on the April 7, 1994, notice since the notice concerned only reclamation of the site. Apart from Petitioners' right to request a hearing within thirty days following publication in the *Federal Register*, 10 C.F.R. § 2.1205(d)(2) also provides for the filing of hearing requests following notice of an action when a *Federal Register* notice is not published. These provisions are meant to apply to materials licensing actions which are not of sufficient importance to warrant notice in the *Federal Register*. See, "Informal Hearing Procedures for Materials Licensing Adjudications" 59 Fed. Reg. 29187,

June 6, 1994. Assuming that the staff undertook a review of the groundwater remediation issue of when the CAP should be submitted by the licensee to the Staff for review as part of its review of the amendment noticed in 1994, that issue was not included in the original *Federal Register* notice, and notice of consideration of that remediation issue was not published separately in the *Federal Register* because it was considered to be of insufficient importance, Petitioners would arguably be able to file a hearing request under § 2.1205(d)(2). However, the Petitioner's right to request a hearing would extend only to the limited groundwater issue considered by the Staff -- the appropriate time on which the licensee should be required to submit its Corrective Action Plan.

PREVIOUS QUESTION 4

Making the same assumptions as in question 3, does 10 C.F.R. § 2.1205(d)(2)(ii) or (iii) require the Petitioners to wait until the license amendment is actually issued to request a hearing on the groundwater remediation matters? Please explain fully.

ANSWER

Assuming the same circumstances, and the applicability of 10 C.F.R. § 2.1205(d)(2), the Staff believes that Petitioners should not be required to wait until the license amendment is actually issued to request a hearing on the groundwater remediation issue of when the CAP should be submitted. When amending those regulations, the Commission explained that the purpose of the provisions regarding hearing requests on actions which have not been noticed was to require petitioners to file hearing requests at the earliest possible time, and not to leave open the possibility that a petitioner could wait until after issuance if they are aware of the pending application earlier. 59 Fed. Reg. at 29188. Following the Commission's

rationale, the regulation should be interpreted to provide that Petitioners must file any hearing request at the earliest specified time following notice of the consideration of groundwater remediation issue considered by the Staff. Specifically, they would be entitled to file a hearing request the earliest of (i) thirty days after they received actual notice of the Staff's consideration of the remediation issue of the date on which the CAP should be submitted, (ii) thirty days after receiving actual notice of agency acting imposing the license condition concerning submission of the CAP, or (iii) one hundred and eighty days after agency action issuing the license condition concerning submission of the CAP.

PREVIOUS QUESTION 5

Making the same assumptions as in question 3, is 10 C.F.R. § 2.1205(d)(2)(i) or any other provision of the Commission's Rules of Practice applicable? If so, please explain.

ANSWER

Again making the same assumptions as discussed above, the provisions of 10 C.F.R. § 2.1205(d)(2) should be considered applicable. If those provisions are applied in the circumstances described, the "actual notice of a pending application" must be considered to be actual notice of the Staff's decision to review the groundwater remediation issue of when the CAP should be submitted. If the regulation is read literally to require "notice of the application," these provisions would be inapplicable to the current situation since the application did not concern any groundwater remediation issue, such as the date of submission of the CAP. Under the assumptions posed by the Presiding Officer, any review of a reclamation issue was not undertaken as the result of a request on behalf of the licensee,

but as an expanded review initiated by the Staff. Thus, Petitioners cannot be expected to have notice of a license amendment request by the licensee on issues pertaining to remediation. For this reason, the only way § 2.1205(d)(2) generally, and § 2.1205(d)(2)(i) specifically, can be interpreted in a manner that provides Petitioners a meaningful opportunity for hearing is to assume that the notice must be of the Staff's review of groundwater issues.

QUESTION 2

In its answer to the Presiding Officer's question 1f, the Staff states (at 5) that the issues relating to future groundwater and river water contamination from the stabilized tailings pile "were apparent as part of the original amendment request." The Staff's answer then refers to the DTER, the TER, and the DEIS -- all of which were issued long after the notice of opportunity for hearing -- and concludes that the possible ramifications of on-site reclamation on groundwater and river water "were readily apparent." Please identify and provide copies of the portions of the material license amendment application and that application modifications filed prior to the Commission notice that make it "apparent" and "readily apparent" that groundwater and river water contamination from the groundwater were the subject of the license amendment application referred to in the notice of opportunity for hearing.

The licensee submitted an environmental report supplement for the proposed license amendment in April of 1993, at the request of the Staff. The Staff, as discussed more fully below, subsequently issued a number of public documents addressing the environmental review that would be conducted. Because the Staff initially confined its environmental review to the consequences of the specific technical changes proposed by the licensee, a large number of individuals and organizations submitted written comments to the NRC critical of the Staff's environmental review. The Staff responded to the public's concerns by reconsidering its position, inviting further public input on the environmental issues

concerning reclamation, and preparing an EIS on the entire reclamation plan, including the proposed amendment. This entire process, as set forth below, was explained and documented for the public.

The licensee's environmental review of the proposed license amendment is documented in the April 6, 1993, Environmental Report Supplement (ER Supplement) submitted in support of the proposed amendment attached as Exhibit 1. This document states in the introduction that "NRC has requested that Atlas submit an ER Supplement that will allow NRC to evaluate the recently submitted reclamation plan in accordance with NEPA. The intent of the ER Supplement is not to revisit issues addressed in earlier NEPA documents, but rather to present information regarding the incremental impacts of reclamation at the site that have not been evaluated." ER Supplement at I-i. The previous NEPA documents that had been prepared to address the Moab Mill were cited, including the licensee's Environmental Report of 1973, NRC's Environmental Impact Statement (EIS) on the Moab facility of 1979, NRC's Final Generic EIS of 1980, Atlas' license renewal application in 1984, and NRC's Environmental Assessment (EA) of the renewal application. *Id.*

The ER Supplement considered the impact of the proposed amendment on rare and endangered species in section 3.4.3, in which a 1988 NRC EA is referenced as stating that the mill facility would have no effect on the rare and endangered species in the Colorado river. ER at 3-5. The remainder of the section, along with sections on Hydrology, 3.5.1

(entitled “Groundwater”) and 3.5.2 (entitled “Surface Water”) primarily reference previous environmental documents. ER Supplement at 3-5 to 3-6.

The Staff’s intention to review the environmental consequences of reclamation, including any groundwater effects, was evident from the *Federal Register* notices published, the initial Environmental Assessment issued on the amendment, and public meetings conducted on the scoping process. All of these documents are discussed in detail below. Again, all of these actions were taken before the April 7, 1994, notice of opportunity for hearing.

The Staff had originally approved a reclamation plan for the Atlas site and incorporated it into the license in 1982. The licensee requested the amendment to the reclamation plan in 1988 in order to (1) change the final height of the tailings pile, (2) revise the erosion protection plan, and (3) revise the design of the radon barrier. The Staff published notice of the amendment request in the *Federal Register* on July 20, 1993. 58 Fed. Reg. 38796, attached as Exhibit 2. The notice referenced the ER Supplement submitted by the licensee and stated that the action was supported by a Finding of No Significant Impact (FONSI) in an Environmental Assessment prepared by the Commission. That document, entitled “Environmental Assessment for the Reclamation of the ATLAS Moab Tailing Impoundment” and dated July 1993, attached as Exhibit 3, (1993 EA) specifically addressed the effects on groundwater and surface water, concluding that “[a] minor deterioration to the groundwater and possibly to the waters of the Colorado River

could occur until reclamation is complete. This condition will steadily improve as the pile dries out and reclamation proceeds.” 1993 EA at pp. 9-10, 19.

In response to the July 20, 1993, *Federal Register* notice, the Commission received many comment letters critical of its Environmental Assessment. As is evident from the summary of those comments, prepared by the Staff in September 1993 and attached as Exhibit 4, the comments were critical of many aspects of the Staff’s environmental review, including issues of groundwater and river water contamination. After considering the comments, the Staff decided to reexamine the environmental implications of the entire reclamation plan, rather than just the changes proposed in the license amendment. Therefore, the Staff, on October 8, 1993, published a notice in the *Federal Register* of the withdrawal of its intent to approve the revised reclamation plan and the FONSI. 58 Fed. Reg. 52516, attached as Exhibit 5. The notice stated that “[b]ased on comments received on this proposed action, the Nuclear Regulatory Commission is withdrawing the Notice of Intent to Amend Source Material License SUA-917 for the Atlas Corporation’s Moab Mill and the related FONSI. The Nuclear Regulatory Commission intends to reevaluate reclamation of the tailings in place and at alternative locations, including environmental implications before making a decision on approval of the revised reclamation plan”. *Id.*

Thereafter, on March 30, 1994, the Staff published notice of its intent to prepare an Environmental Impact Statement (EIS) for the reclamation of the Atlas Moab site and to conduct a scoping meeting for the EIS. 59 Fed. Reg. 14912, attached as Exhibit 6. The notice explained that the NRC had determined that approval of the revised reclamation plan

constituted a major Federal action, and that because of the level of controversy related to the proposed action and the uncertainties associated with the unique features of the Moab site, preparation of an EIS was warranted. *Id.* at 14913. Further, the notice explained that NEPA required consideration of environmental issues, both radiological and non-radiological, and that the principal intent of the EIS is to provide a document that describes the environmental consequences of the proposed action and of the alternatives on which the NRC can base its licensing decision. *Id.* Again, the notice informed the public of the ER Supplement submitted by Atlas in April 1993, in support of the amendment application. *Id.* The notice invited the public to participate in a scoping meeting to discuss the proposed action and possible alternatives. Alternatively, the public was invited to submit written comments on, among other things, the significant issues to be analyzed. *Id.* at 14913-14. A proposed outline of the EIS was set forth, including, under section 4, “Environmental Consequences, Monitoring and Mitigation, a subsection on “Hydrology, Water Quality, and Water Use.” *Id.* at 14914. The issue of water contamination was again raised in the discussion of the scoping process, under section (c), where the Commission stated, “[e]xtensive water monitoring has identified no contamination in the Colorado River; therefore, there are no effects on river biota, and they will not be assessed.” *Id.* at 14914.

These documents and notices, especially when considered in their totality, made it clear that the environmental impacts of the reclamation plan would be considered by the staff when reviewing the licensee’s amendment application. This was evident initially from the licensee’s submittal of an Environmental Assessment, and the Commission’s initial

determination to issue a FONSI, which was noticed in the *Federal Register*. Indeed, these actions prompted numerous individuals and organizations to submit comment letters critical of the Commission's environmental review.

Once the Commission decided to withdraw its FONSI and prepare an EIS, it again published notice of its actions in the *Federal Register*. This time, the Commission provided detailed information on the likely topics of the EIS, to include hydrology, water quality and water use, and even indicated its initial determination that because water monitoring had not identified any contamination in the Colorado River, the effects on river biota would not be assessed in the EIS. Interested persons were specifically invited to comment on the scope of the EIS, including the issues which should be considered significant to the environmental review. Given this information, it is clear that Petitioners should have been well aware that the effects of the reclamation plan on groundwater and river water were part of the environmental review to be conducted by the Staff in its review of the license amendment simply by looking at the public documents available at the time the April 7, 1994, notice of opportunity for hearing.

QUESTION 3

In responding to the Presiding Officer's question 1, the Staff states that the Commission's April 7, 1994, notice of opportunity for hearing does not include groundwater remediation within its scope. The Staff's answer and an accompanying affidavit further explain that, in its regulatory activities, the Staff differentiates between the cleanup of existing groundwater contamination (*i.e.*, groundwater remediation) and the future effects on groundwater after the reclamation of the tailings pile (*i.e.*, future groundwater contamination). Further, in answering the Presiding Officer's questions 2a, 2h, and 10, the Staff concedes that license condition 41B, which requires the Applicant to file by May, 2000, a revised corrective action plan (CAP) so that

contaminated groundwater will meet groundwater standards within seven years of the NRC's approval of the CAP, relates to groundwater remediation. Finally, the Staff's answers to questions 2 and 2g indicate that the substance of license condition 41B was first made public in January 1999. In light of these answers, explain precisely how (and when) the Petitioners could challenge any or all aspects of Staff-initiated license condition 41B without running afoul of the fundamental principle of NRC adjudication that the scope of a materials license amendment proceeding is confined to the matters relating to the license amendment set forth in the Commission's notice of opportunity for hearing.

ANSWER

As discussed above, Subpart L of Part 2 apply to licensee-initiated amendments of materials licenses. In these circumstances, the Staff believes that the regulations should be interpreted to provide Petitioners with a meaningful opportunity for hearing on the specific amendment after receiving notice of the action. Since the Commission has provided for individuals to have the opportunity to request hearings on materials license amendments which are not deemed sufficiently important to warrant publication in the *Federal Register* in Subpart L, the Staff believes that license modifications such as this one should also be open to hearing requests. For this reason, the Staff believes that Petitioners should be permitted the opportunity to request a hearing on the substance of the license amendment in accordance with the Subpart L provisions.

Since the *Federal Register* notice published in 1974 concerned only reclamation of the site, Petitioners could not then be expected to have filed a hearing request on the issue pertaining to the license condition--when the licensee should be required to file a CAP. In order to provide them with an opportunity to file a hearing request on that license condition, therefore, the timeliness of the hearing request should be determined by the time Petitioners

received notice of the action, under § 2.1205(d)(2), rather than the date on which the *Federal Register* notice was published, as provided under § 2.1205(d)(1). This is because the situation is akin to the circumstance in which the licensee requested a separate amendment action, but the importance of the action requested did not require publication in the *Federal Register*.

QUESTION 4

License condition 41B states that “[t]he licensee shall provide, by May 1, 2000, a revision to the corrective action program identified in the license condition 17.C. that will meet ground-water standards within 7 years from the date of approval by NRC.” In part, the Staff’s response to the Presiding Officer’s initial question 2a states (at 9): “only to the extent that the licensee is required to submit a revised CAP, as required by License Condition 41B, under which groundwater cleanup would be accomplished within seven years [do license conditions 41A, 41B, and 41C relate to groundwater remediation]. The NRC has not prescribed any requirements on the contents of the CAP through these license conditions.” Does license condition 41B require that the revised CAP must meet “groundwater standards”? Answer yes or no and explain.

No, license condition 41B only requires only hat the CAP be submitted by the date specified.

The statement that the CAP must meet groundwater standards is simply a reference to the regulatory requirements applicable to CAP’s. The establishment of groundwater standards is a matter that is explicitly governed by the Commission’s regulations. The groundwater protection standards relating to the disposition of tailings produced by the extraction of source materials from ores are determined by the Staff according to Criterion 5 of Appendix A to Part 40 of 10 C.F.R. Groundwater standards are determined constituent-by-constituent for each specific site according to the criteria and standards set forth in that appendix. The standards which have been set for the Moab site are set forth in license condition 17.B.

Currently, License condition 17. B provides that the licensee must comply with the following groundwater standards at the point of compliance, which is defined as two wells located at the edge of the tailings pile:

- Chromium = 0.08 mg/l
- Gross Alpha = 33 pCi/l
- Molybdenum = 0.05 mg/l
- Nickel = 0.06 mg/l
- Radium-226 and 228 = 5 pCi/l
- Selenium = 0.01 mg/l
- Vanadium = 0.04 mg/l
- Uranium = 4.0 pCi/l

Under Criterion 5Dof Appendix A, the CAP submitted by the licensee must have the objective of returning hazardous constituent concentration levels in groundwater to the concentration limits set as standards. In reviewing the CAP, the Staff will apply the existing standards unless the licensee proposes that new standards for one or more constituents be set. In that case, the licensee must provide the basis for any proposed change, and the Staff must review the proposed changes in light of the guidance and criteria in Criterion 5 to determine the proper groundwater standard to be applied. When reviewing the CAP, the Staff will ascertain the appropriate groundwater standard for any new hazardous constituents which are identified, such as ammonia. Again, the Staff will consider any standard proposed by the licensee, and will follow the guidance in Criterion 5 in ascertaining the appropriate standard.

QUESTION 4.a.

Identify all the “ground-water standards” referred to in license condition 41B that the revised CAP must meet?

ANSWER

Please refer to the response to Question 4.

QUESTIONS 4.b.- 4.d.

b. Are the 7-year compliance period and the groundwater standards referred to in license condition 41B derived from “Terms of Conditions” 1.b. of the Fish and Wildlife Service’s July 29, 1998 Final biological Opinion (FBO). Answer yes or no and explain.

c. Are the 7-year compliance period and the groundwater standards referred to in the license condition 41B derived from “reasonable and prudent alternatives” 1.b. of the FBO? Answer yes or no and explain.

d. If the 7-year compliance period and the groundwater standards referred to in license condition 41B are not derived from the terms and conditions and/or the reasonable and prudent alternatives of the FBO, identify the source from which the 7-year compliance period and the groundwater standards referred to in license condition 41B are derived and explain why these provisions were placed in license condition 41B.

ANSWER

Yes, the seven year compliance period referred to in license condition 41B was derived from the FBO. The compliance period was determined during the consultative process between the NRC, the licensee and the Fish and Wildlife Service (FWS) that resulted in the issuance of the Final Biological Opinion (FBO), including the “Terms of Conditions” and the “Reasonable and Prudent Alternatives.”

No, the groundwater standards referred to in license condition 41B are not derived from the FBO. The groundwater standards referenced in license condition 41B are established by the Staff pursuant to Commission regulations. While groundwater standards

are not obtained directly from the FBO, relevant information in the FBO will be considered by the Staff when the Staff determines what standards are appropriate.

The Staff, when reviewing a CAP for groundwater remediation, must establish a number of things under the Commission's regulations, including the hazardous constituents to be considered, the concentrations limits for those constituents, the compliance period and the point of compliance (the location at which the concentration limits must be met). Criterion 5B(1) of Appendix A to Part 40 of 10 C.F.R. Some of these issues were the subject of discussion during the consultative process with the FWS. Discussion of the amount of time would be necessary for the licensee to bring groundwater contamination to appropriate levels was initially raised during discussions between the Staff, the FWS and the licensee during that process. The licensee informed the Staff and the FWS that, based on a preliminary analysis by a consultant, groundwater cleanup could be completed within seven years.

Based on the representations of the licensee, the Staff and the FWS accepted this time period. The seven year time period was incorporated it into the FBO under "Terms and Conditions" and "Reasonable and Prudent Alternatives". While the time period in the FWS is not necessarily binding on the NRC, the Staff concurred with the FWS was an acceptable time frame, and therefore reiterated the seven year time period in the license condition requiring submission of the CAP.

Groundwater standards are determined by the Staff in accordance with the regulatory provisions set forth in Criterion 5B(5) of Appendix A to Part 40. Under that Criterion, the

concentration of any hazardous constituent may not exceed (1) the Commission approved background concentration of that constituent in the groundwater, (2) the value given in the table in paragraph 5C if the constituent is listed in the table and if the background level of the constituent is below the value listed, or (3) an alternate concentration limit (ACL) established by the Commission. If the Staff establishes a standard by applying (1) or (2), it would not ordinarily take into account other factors. This is because, as Criterion 5B(6) explains, background concentrations conceptually pose no incremental hazards and drinking water limits state acceptable standards.

However, at the Moab site, the NRC is also required by section 7(a)(2) of the Endangered Species Act (ESA), 16 U.S. C. § 1536(a)(2), to ensure that any action taken is not likely to jeopardize the continued existence of any endangered species or threatened species. Since the FWS has determined that the proposed reclamation could jeopardize the continued existence of certain species of fish, in part because of the presence of ammonia leaching from the tailings site, the Staff has the additional obligation of ensuring that the groundwater standards established will prevent contamination of the river water to an extent that would endanger those fish. To meet this obligation, the Staff expects to add ammonia as a hazardous constituent and establish a groundwater standard protective of fish in the Colorado river when reviewing the CAP. Recognizing this, the licensee will most likely propose adding ammonia as a hazardous constituent in its CAP as well as a groundwater standard for the Staff to consider.

If the licensee proposes that the Staff establish an ACL for ammonia, it must provide a basis for the proposal, including practicable corrective actions, a showing that the limits are as low as reasonably achievable, and information on the factors the Commission must consider. Criterion 5B(6). The factors to be considered are set forth in Criterion 5B(6) (a) and (b), and include the existing quality of surface water including other sources of contamination and the cumulative impact on surface water quality and the potential damage to wildlife. Thus, when considering an ACL, the Staff would be required by the Commission's regulations as well to consider the effects of groundwater contamination on surface water contamination and the consequent effects on endangered fish.

The purpose of the reference, in license condition 41B, to a seven year compliance period was to ensure that the CAP submitted by the licensee complies with the terms of the reasonable and prudent alternatives established by the FWS in the FBO. The seven year time period was arrived at during the consultative process and was adopted by the FWS with the concurrence of the NRC. Since the Staff concurred with the FWS that a seven year cleanup period was appropriate, and the seven year period was proposed by the licensee as a reasonable time, the Staff referenced in the license condition to ensure that the CAP submitted by the licensee would satisfy the NRC's obligation to ensure that endangered fish are protected.

The purpose of the reference to groundwater standards in license condition 41B is simply to restate the Commission requirements applicable to CAP's. The Staff set groundwater standards when approving the previous CAP and incorporated them into

License Condition 17B. Any new standards, or changes to the existing standards, will be determined by the Staff in reviewing the new CAP once it is received.

QUESTION 5

In attempting to differentiate between groundwater contamination that is included and excluded in the current license amendment action, the Staff's answer to the Presiding Officer's initial question 1 and the Staff's accompanying affidavit make a bright-line distinction between the cleanup of existing groundwater contamination at the Atlas site (*i.e.*, groundwater remediation) and the future effects on groundwater after the reclamation of the Atlas site (*i.e.*, future groundwater contamination). Are the groundwater standards referred to in license condition 41B that the revised CAP must meet applicable to existing groundwater contamination at the Atlas site?

ANSWER

Yes, the groundwater standards set in accordance with Criterion 5 of Appendix A to Part 40 of the Commission's regulations apply to existing groundwater contamination.

QUESTION 5.a.

If the groundwater standards referred to in license condition 41B are not applicable to existing groundwater contamination at the Atlas site, what is the meaning and purpose of the 7-year compliance period in license condition 41B?

ANSWER

As indicated above, the groundwater standards are applicable.

QUESTION 5.b.

Relying on the Final environmental Impact Statement, the affidavit accompanying the Staff's answer to question 1 briefly refers to the long travel time of contaminants in the groundwater to reach the river from the tailings pile. Due to the long average travel time of groundwater contamination at the Atlas site, can the Staff accurately and objectively differentiate between future contaminants in the groundwater after reclamation of the tailings pile and present or existing contaminants in the ground-water?

ANSWER

As the Staff understands it, this question asks whether the Staff, after measuring groundwater contamination at a future time, could differentiate between the contaminants that are present in the groundwater at the current time but had not been removed by the time of the future measurement and those contaminants which are not in the groundwater now but had seeped into the groundwater from the tailings pile before the time when the future measurement was made. The answer to this question is no.

QUESTION 5.c.

Do actual measured data from the Atlas site permit a precise and accurate delineation between present or existing groundwater contamination and future groundwater contamination?

ANSWER

No, actual measured data only identify existing groundwater contamination.

QUESTION 6

License condition 41C states that “[b]efore commencing construction of the final radon barrier, the licensee shall provide analyses, appropriately supported by necessary data, showing that the ammonia standards identified in item 2 of the reasonable and precedent alternatives of the FBO will be met over the design life of the reclamation.” In part, the Staff’s response to the Presiding Officer’s initial question 2a states (at 9):

Only to the extent that the licensee is required to submit a revised CAP, as required by License Condition 41B, under which groundwater cleanup would be accomplished within seven years [do license conditions 41A, 41B, and 41C relate to groundwater remediation]. The NRC has not prescribed any requirements on the contents of the CAP through these license conditions. The other requirements imposed by the other License Conditions refer only to reclamation of the site, not remediation of current groundwater contamination.

Do the “ammonia standards” identified in item 2 of the reasonable and prudent alternatives of the FBO provide, inter alia, for a chronic toxicity standard of 0.38 mg/l total ammonia and an acute toxicity standard of 1.93 mg/l total ammonia? Answer yes or no and explain.

ANSWER

Yes, item 2 of the reasonable and prudent alternatives of the FBO establishes a maximum value of ammonia concentration of 1.93 mg/l (the acute value) for the water in the Colorado River and of 0.38 mg/l (the chronic value) for water outside a mixing zone, which is defined as the body of water, not to exceed 2,500 feet in size, beginning at the most upstream point in the Colorado River where ammonia levels begin to increase due to the tailings pile. FBO at 87. According to the FBO, these are the values deemed necessary to protect endangered fish in the river.

The standards for ammonia established by FWS are considered by the Staff in reviewing the reclamation plan. The requirements for the licensee’s reclamation plan, and the standard for the Staff’s review, are set forth in Criterion 6 of Appendix A to Part 40 of the Commission’s regulations. The relevant provision, Criterion 6(7), provides that the licensee, to the extent necessary to prevent threats to the environment, must control, minimize, or eliminate post-closure escape of non-radiological hazardous constituents, leachate, contaminated rain-water, or waste decomposition products to the ground or surface waters. Thus, the reclamation plan must ensure that, after closure, ammonia will not escape and contaminate water in the Colorado River or the mixing zone in excess of the standard set by FWS.

The Staff analyzes the post-closure escape of constituents such as ammonia by estimating the rate and amount of water entering the tailings pile after reclamation is complete, the concentration of ammonia in the leachate that would be created within the pile, estimating the seepage rate of the leachate out of the pile into the groundwater, accounting for existing groundwater contamination and for the movement and dispersion of the leachate in the groundwater, and then accounting for seepage of the ammonia-contaminated groundwater into the river and the dilution of that contaminated water with river water under various water flow regimes.

Once the FBO established the numerical values for ammonia concentrations in the Colorado River and the mixing zone, the Staff modeled the foregoing analysis to determine if the ammonia leachate from the completed reclamation site would exceed those values. While the results of the analysis indicated that the values would most likely be met, the Staff was not satisfied that a definitive answer could be obtained without additional data. For that reason, the licensee was asked to provide the additional data and analyses required in License Condition 41C.

QUESTION 6.a.

If not, what “ammonia standards” do item 2 of the reasonable and prudent alternatives of the FBO require?

ANSWER

As noted above, the FBO established the standard for ammonia concentrations in the river water and in the mixing zone for protection of endangered fish.

QUESTION 6.b.

If the ammonia standards identified in item 2 of the reasonable and prudent alternatives of the FBO do not apply to existing groundwater contamination (and river water contamination from the groundwater), explain the meaning of the following provision from item 2 of the reasonable and prudent alternatives of the FBO (at 87): “The Nuclear Regulatory Commission shall require Atlas corporation to meet the following ammonia standards for surface waters [*i.e.*, Colorado River] at or below the Atlas tailings pile”.

ANSWER

As discussed above, the Commission’s regulations require the Staff to evaluate whether the licensee’s CAP for groundwater remediation will bring the concentrations for hazardous constituents in the groundwater at the point of compliance to within the limits established by the Commission. In the case of ammonia leachate from the site, the Staff is also required by the ESA to ensure that the resulting concentrations in the water in the Colorado River or the mixing zone are not likely to threaten the continued existence of endangered to threatened fish . This process is separate and distinct from the evaluation the Staff will conduct when reviewing the licensee’s CAP.

In evaluating the CAP, the Staff must evaluate whether the corrective action proposed by the licensee will bring the hazardous constituent concentration levels currently in the groundwater within the standards established by the Staff in accordance with Criterion 5 of Appendix A to Part 40. Thus, one of Staff’s tasks when reviewing the CAP will be to establish a groundwater standard for ammonia. This standard will not be equivalent to the standard set by FWS because the FWS standard is based on concentrations in the water and the mixing zone, while the NRC standard is for groundwater at the point of compliance,

which under License Condition 17B is defined as the wells located at the edge of the tailings pile. However, the groundwater standard set for ammonia will take the FWS standards into account under the terms of the FBO and under the regulatory requirements in Criterion 5. In other words, the Staff must determine what groundwater standard at the point of compliance (the wells located at the edge of the tailings pile) will ensure that any resulting contamination of the Colorado river or the mixing zone will not be likely to threaten the existence of any endangered or threatened species of fish.

QUESTION 7

In response to the Staff's answer to the Presiding Officer's initial question 1, the Petitioners state (at 6) that "[t]he effect of the ESA [Endangered Species Act] and the July 1998 BO, notwithstanding the NRC's normal practices, is to require the NRC to consider groundwater remediation matters as part of this licensing action." Further, in response to the Staff's answer to question 1f, the Petitioners state (at 10) that "due to the terms and conditions of the BO, the NRC is *required* to set groundwater standards in *this* licensing proceeding." (Emphasis in original.) Is the effect of the ESA and the FBO, as the Petitioners state, to require the NRC to set, in this material license amendment action, standards for existing groundwater contamination? Answer yes or no and explain.

ANSWER

No, the NRC is not required to consider groundwater remediation in this license amendment action, either by Commission regulation or by the Endangered Species Act (ESA) or the FBO. The relevant provisions of the ESA, contained in section 7(a)(2), require that the NRC, with the assistance of and in consultation with the FWS, to ensure that this licensing action, approval of a reclamation plan for the Moab site, is not likely to threaten the continued existence of endangered species or threatened species of fish in the Colorado

River. 16 U.S.C. 1536(a)(2). In order to carry out this obligation, the NRC was required to consult with FWS on the proposed reclamation plan. The FWS then issued its biological opinion detailing the effects on species, and determined that certain species could be endangered. Therefore, the FWS suggested reasonable and prudent alternatives which would provide protection to the threatened species. While the NRC is not required to adopt the alternatives suggested in the biological opinion, if it deviates from them it is subject to the risk of not satisfying its ESA obligations. *See, Tribal Village of Akutan v. Hodel*, 859 F.2d 651, 659 (9th Cir. 1988).

Neither the ESA nor the FBO require the NRC to change its practice of reviewing reclamation of the site separately from remediation of existing groundwater contamination. The ESA imposes an obligation on the NRC to ensure that reclamation of the site is not approved unless it has determined that it is not likely to jeopardize the continued existence of endangered or threatened species. The FBO specifies the potential threats to the certain species of fish in the Colorado and outlines reasonable and prudent alternatives which it believes will be sufficient to protect them. Neither directs the review process to be followed by the NRC or any other agency.

It is true that the FWS did not distinguish between actions to be taken in the context of reclamation versus the actions to be taken in the context of groundwater remediation. Thus, some the actions described in the reasonable and prudent alternatives apply only to actions that will be taken when the Staff reviews the CAP, such as establishing groundwater

standards. This is, however, simply reflective of a different approach taken by that agency in fulfilling its statutory obligation, and does not impose any obligation on the NRC.

Thus, the Staff will conduct its review of the reclamation plan and of the CAP in accordance with its normal practice. When actions that are required for review of the CAP are performed by the Staff, such as establishing groundwater standards, the provisions of the FBO will be considered. With regard to the reclamation plan, as discussed above the Staff is evaluating whether ammonia leachate from the tailings pile, once reclamation is complete, will cause ammonia levels in the Colorado River or the mixing zone to exceed the standards set in the FBO as part of this licensing action. This is done by estimating the amount of ammonia leachate, the rate of seepage into the groundwater below the pile, and the amount of existing ammonia contamination in the groundwater, and then predicting the movement and dilution of the groundwater with river water.

The groundwater standards for existing contamination will be determined separately by the Staff when reviewing the CAP submitted by the licensee. When submitting the CAP, the licensee is required to provide a basis for any proposed standards. The Staff's review of the proposed standards will be conducted in accordance with the Commission's directives set forth in Criterion 5 of Appendix A to Part 40. The standards set by the Commission, which will apply to groundwater levels at the point of compliance (the edge of the tailings pile) must ensure that any resulting contamination of the river and the mixing zone will not exceed the FBO standards. The process of setting those standards, therefore, will not begin

until after the CAP is received by the Staff and will be performed independently of the Staff's consideration of the license amendment application concerning reclamation.

Respectfully submitted,

A handwritten signature in cursive script that reads "Lisa Clark".

Lisa B. Clark
Counsel for NRC Staff

Dated at Rockville, Maryland
this 17th day of September, 1999

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

DOCKETED
USNRC

'99 SEP 17 P4:33

BEFORE THE PRESIDING OFFICER

In the Matter of)
)
ATLAS CORPORATION) Docket No. 40-3453-MLA-3
)
) ASLBP No. 99-761-04-MLA
(Moab, Utah))
)

Office of
Rulemaking
ADJUDICATIVE
STAFF

CERTIFICATE OF SERVICE

I hereby certify that copies of "NUCLEAR REGULATORY COMMISSION STAFF'S ANSWERS TO THE QUESTIONS POSED BY THE PRESIDING OFFICER IN THE JULY 30, 1999, ORDER" in the above-captioned proceeding have been served on the following by deposit into the United States mail, or through deposit in the Nuclear Regulatory Commission's internal mail system this 17th day of September 1999.

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04003453 820E



EXHIBIT 1

40-3453

X61074

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RICHARD E. BLUBAUGH
Vice President of Environmental
and Governmental Affairs

RETURN ORIGINAL TO PDR, HQ.

April 6, 1993

Mr. Ramon Hall
Director
Uranium Recovery Field Office
U.S. NUCLEAR REGULATORY COMMISSION
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Denver, CO 80225

▲
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Re: License SUA-917
Docket No. 40-3453
Environmental Report Supplement

Dear Mr. Hall:

In compliance with your letter dated February 19, 1993, Atlas herewith transmits 15 copies of the Environmental Report Supplement which the NRC determined to be necessary pursuant to 10CFR40, Appendix A, Criterion 9 and 10CFR51.60(b). This document is being submitted to allow NRC to evaluate the recently submitted revised reclamation plan in accordance with the National Environmental Policy Act (NEPA). This Environmental Report Supplement was prepared in conformance to the outline presented in the NRC guidance document, "Environmental Report Content and Outline Position, Uranium Mill Decommissioning and Reclamation", which was provided to Atlas with your letter of October 30, 1992.

Atlas requested the assistance of Harding Lawson Associates in the preparation of this document in order to assure a thorough and professional evaluation was performed. After reviewing all the information provided and referenced, we believe you and your staff will agree that the revised reclamation plan, prepared by Canonie Environmental, currently under review is the most appropriate plan for reclaiming Atlas' uranium millsite and tailings impoundment near Moab, Utah. Also, we believe the proposed plan, is fully consistent with the applicable regulations.

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C PDR

RESIGNATED ORIGINAL

Certified By Mary C. Hood

DF02

93-0351

Mr. Ramon Hall
April 6, 1993
Page Two

We look forward to receiving NRC's approval of the proposed reclamation plan prior to September 30, 1993. As you indicated, failure to meet this date could have a negative impact on the interagency agreement which has allowed EPA to defer 40CFR61 requirements. Please contact me at your convenience should you have any questions concerning the document.

Sincerely,

ATLAS CORPORATION



Richard E. Blubaugh
Vice President of Environmental
and Governmental Affairs

REB:lds

Enclosure

cc: G.E. Davis
D.L. Edwards
Dianne R. Nielson, Ph.D., Utah DEQ
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40-3453
Harding Lawson Associates

A Report Prepared for

Atlas Corporation
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RETURN ORIGINAL TO PDR, HQ.

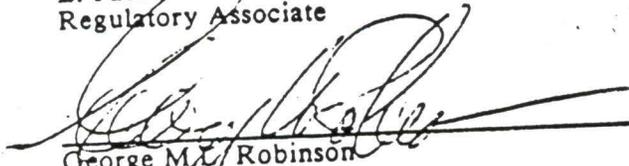
ENVIRONMENTAL REPORT SUPPLEMENT
ATLAS CORPORATION
ATLAS URANIUM MILL
GRAND COUNTY, UTAH

HLA Project No. 23747,1

by



E. Paul Newman
Regulatory Associate



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w/ ltr 4/6/93
93-0351

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DISTRIBUTION

INTRODUCTION

Atlas Corporation (Atlas) has submitted a reclamation plan to the Nuclear Regulatory Commission (NRC) for the Atlas uranium mill site and tailings disposal impoundment near Moab, Utah (Moab Mill). Atlas operates that facility pursuant to NRC License No. SUA-917. Before NRC can approve the plan, it must review updated information regarding site reclamation in order to meet mandates placed on the agency by the National Environmental Policy Act (NEPA).

A variety of NEPA documents have been prepared in the past for the Moab Mill, beginning with the Environmental Report (ER) for the facility in 1973 (Atlas Corporation, "Environmental Report, Moab, Utah Facility," August 31, 1973). NRC prepared the final environmental impact statement for the Moab Mill in 1979 (NRC, "Final Environmental Statement Related to Operation of Moab Uranium Mill, Atlas Minerals Division, Atlas Corporation," NUREG-0453, Docket No. 40-3453, January 1979) (FES) and the final generic environmental impact statement in 1980 (NRC, "Final Generic Environmental Impact Statement on Uranium Milling," NUREG-0706, September 1980). Atlas submitted a license renewal application in 1984 (Atlas, "Source Material License Renewal for the Atlas Minerals Moab Mill, Grand County, Utah, Source Material License No. SUA-917," May 1984). NRC prepared an "Environmental Assessment in Consideration of the Renewal of Source Material License No. SUA-917 for the Atlas Minerals Moab Uranium Mill," Docket No. 40-3453 (February 22, 1988) (1988 EA) and made a Finding of No Significant Impact (FONSI) for the renewal application on February 25, 1988. NRC subsequently approved continued operation of the Moab Mill under NRC License No. SUA-917.

NRC has requested that Atlas submit an ER Supplement that will allow NRC to evaluate the recently submitted reclamation plan in accordance with NEPA. The intent of the ER Supplement is not to revisit issues addressed in earlier NEPA documents, but rather to present information regarding the incremental impacts of reclamation at the site that have not been evaluated.

This ER Supplement follows the outline presented in the NRC guidance document entitled, "Environmental Report Content and Outline Position, Uranium Mill Decommissioning and Reclamation." Information required or a reference to the relevant document in the administrative

record containing the information is presented in the respective section of this report according to NRC's outline.

1.0 PURPOSE AND NEED FOR THE MILL TAILINGS DECOMMISSIONING AND RECLAMATION ACTION

1.1 REGULATORY REQUIREMENTS AND CITATIONS

Nuclear Regulatory Commission (NRC) regulations found at 10 Code of Federal Regulations (CFR) Part 40 establish procedures and criteria for the issuance of source and by-product material licenses, including requirements for the disposal and long-term care of by-product and residual radioactive material. Appendix A to Part 40 (Criteria Relating to the Operation of Uranium Mills and the Disposition of Tailings or Wastes Produced by the Extraction or Concentration of Source Material from Ores Processed Primarily for Their Source Material Content) describes technical, financial, ownership, and long-term site surveillance criteria relating to the siting, operation, decontamination, decommissioning, and reclamation of mills and tailings. Reclamation plans, such as the ones submitted by Atlas in 1988 and 1992, must meet the relevant criteria in Appendix A to 10 CFR Part 40.

NRC regulations implementing the National Environmental Policy Act (NEPA), 10 CFR Part 51, require an applicant for a Part 40 license renewal or other form of permission to submit an Environmental Report (ER) or an ER Supplement to the NRC. Moreover, Criterion 9 states that a licensee must submit the site reclamation plan in conjunction with an ER that addresses the expected environmental impacts of the decommissioning and tailings reclamation, and evaluates alternatives for mitigating the impacts. If the licensee has previously submitted an ER, the ER Supplement may be limited to incorporating by reference, updating, or supplementing the information previously submitted to reflect any significant environmental change as described in NRC guidance materials (e.g., "Environmental Report Content and Outline Position, Uranium Mill Decommissioning and Reclamation").

1.2 DESCRIPTION OF PROPOSED ACTION

The proposed action involves reclamation of the tailings impoundment at the Atlas Corporation (Atlas) uranium mill site and tailings disposal impoundment near Moab, Utah (Moab Mill), and is described in greater detail in the reclamation plan submitted in 1992 (Canonie

Environmental, "Atlas Corporation Reclamation Plan, Uranium Mill and Tailings Disposal Area, Report," June, 1992) (1992 Reclamation Plan). NRC approval of the plan is pending. NRC approved the mill decommissioning plan (Atlas Minerals Division of Atlas Corporation, "Decommissioning Plan for the Moab Mill, Moab, Utah," November 30, 1987) on November 28, 1988, which is identified in License Condition No. 21 of the Atlas license (NRC Source Materials License No. SUA-917, Amendment No. 18, December 18, 1992).

2.0 CHARACTERISTICS AND OPERATIONAL HISTORY OF THE MILL FACILITY AND TAILINGS

This section of the ER Supplement describes the mill process and provides an operating history of the Moab Mill. Numerous documents have been prepared in earlier licensing actions. References are made to these documents where appropriate.

2.1 OPERATIONAL HISTORY OF MILL FACILITY

The Uranium Reduction Company (URC) began milling operations in October 1956, initially processing ores from the Big Indian district in southeastern Utah and then from small private mines in other districts. Atlas acquired URC in 1962. The original source materials license for operation of the Moab Mill was issued by the U.S. Atomic Energy Commission (AEC) in 1959. NRC is now the licensing and regulatory authority, since Utah is not an agreement state.

The tailings pond construction was also completed in 1956, and, with brief exceptions, tailings have been disposed continuously until operations at the mill ceased in April 1984. A description of the mill history is provided in Appendix A to the U.S. Department of Energy document "Commingled Uranium Tailings Study" (June 30, 1982) and Section 1.2 (Background Information) of the 1988 Environmental Assessment (NRC, "Environmental Assessment in Consideration of the Renewal of Source Material License No. SUA-917 for the Atlas Minerals Moab Uranium Mill," Docket No. 40-3453 (February 22, 1988) (1988 EA).

2.2 DESCRIPTION OF MILL FACILITY

A detailed description of the Moab Mill facility is provided in Section 3.0 (The Mill) of the 1973 Environmental Report (Atlas, "Environmental Report, Moab, Utah Facility," August 31, 1973) (1973 ER); Section 3.2 (The Mill) of the Final Environmental Statement (FES) (NRC, "Final Environmental Statement Related to Operation of Moab Uranium Mill, Atlas Minerals Division, Atlas Corporation," NUREG-0453, Docket No. 40-3453, January 1979); Appendix A to the U.S. Department of Energy document "Commingled Uranium Tailings Study" (June 30, 1982); Section 3.0 (Mill Process and Equipment) of the 1984 Renewal Application (Atlas, "Source Material License Renewal for the Atlas Minerals Moab Mill, Grand County, Utah, Source

Material License No. SUA-917," May 1984); and in Section 1.2 (Background Information) of the 1988 EA (NRC, "Environmental Assessment in Consideration of the Renewal of Source Material License No. SUA-917 for the Atlas Minerals Moab Uranium Mill," Docket No. 40-3453, February 22, 1988).

2.3 DESCRIPTION AND CHARACTERISTICS OF TAILINGS

Tailings at the site are contained in a 130-acre impoundment constructed to a height of approximately 110 feet. The crest of the tailings impoundment is at an elevation of 4058 feet. A detailed description of the tailings material is provided in Section 3.4 (Control of Mill Waste and Effluent) of the 1973 ER (Atlas, "Environmental Report, Moab, Utah Facility," August 31, 1973); Section 3.2.4 (Tailings) of the FES (NRC, "Final Environmental Statement Related to Operation of Moab Uranium Mill, Atlas Minerals Division, Atlas Corporation," NUREG-0453, Docket No. 40-3453, January 1979); Appendix A to the U.S. Department of Energy document "Commingled Uranium Tailings Study" (June 30, 1982); Section 4.2 (Liquids and Solids) of the 1984 Renewal Application (Atlas, "Source Material License Renewal for the Atlas Minerals Moab Mill, Grand County, Utah, Source Material License No. SUA-917," May 1984); and Section 4.0 (Tailings Management) of the 1988 EA (NRC, "Environmental Assessment in Consideration of the Renewal of Source Material License No. SUA-917 for the Atlas Minerals Moab Uranium Mill," Docket No. 40-3453, February 22, 1988).

2.4 DESCRIPTION OF GROUNDWATER

A detailed description of the groundwater beneath the site is provided in Section 2.6.1 (Groundwater) of the 1973 ER (Atlas, "Environmental Report, Moab, Utah Facility," August 31, 1973); Section 2.6.2 (Groundwater) of the FES (NRC, "Final Environmental Statement Related to Operation of Moab Uranium Mill, Atlas Minerals Division, Atlas Corporation," NUREG-0453, Docket No. 40-3453, January 1979); Section 2.3.1 (Ground Water) of the 1984 Renewal Application (Atlas, "Source Material License Renewal for the Atlas Minerals Moab Mill, Grand County, Utah, Source Material License No. SUA-917," May 1984), the EnecoTech, Inc., document "Ground Water Hydrology, Detection Monitoring Program, Atlas Minerals Moab Uranium Mill,

Grand County, Utah," (February 25, 1988), and the Western Technologies, Inc., document
"Draft/Final, Atlas/Moab, Uranium Mill and Tailings Corrective Action Plan, Moab, Utah,"
(March 1989).

3.0 ENVIRONMENTAL CHARACTERISTICS OF MILL SITE

This section of the ER Supplement describes the environmental baseline characteristics of the site to determine the environmental impacts of reclaiming the Moab Mill site. Numerous documents have been prepared in earlier licensing actions. References are made to these documents where appropriate.

3.1 GEOGRAPHY AND DEMOGRAPHY

3.1.1 Site Location

The Atlas uranium mill is located 3 miles northwest of the City of Moab in Grand County, southeastern Utah. The property is bounded by the Colorado River and U.S. Highway 191, and extends across Utah Highway 279 on the west and southwest side. The property consists of approximately 400 acres, of which the mill site and tailings area occupy approximately 200 acres. A detailed description of the site location is provided in Section 2.1 (Site Location and Layout) of the 1973 ER (Atlas, "Environmental Report, Moab, Utah Facility," August 31, 1973); Section 1.2 (Background Information) of the FES (NRC, "Final Environmental Statement Related to Operation of Moab Uranium Mill, Atlas Minerals Division, Atlas Corporation," NUREG-0453, Docket No. 40-3453, January 1979); and Section 2.1.1 (Site Location) of the 1984 Renewal Application (Atlas, "Source Material License Renewal for the Atlas Minerals Moab Mill, Grand County, Utah, Source Material License No. SUA-917," May 1984).

3.1.2 Site Description

A detailed description of the site is provided in Section 2.1 (Site Location and Layout) of the 1973 ER (Atlas, "Environmental Report, Moab, Utah Facility," August 31, 1973); Section 1.2 (Background Information) of the FES (NRC, "Final Environmental Statement Related to Operation of Moab Uranium Mill, Atlas Minerals Division, Atlas Corporation," NUREG-0453, Docket No. 40-3453, January 1979); and Section 1.2 (Background Information) of the 1988 EA (NRC, "Environmental Assessment in Consideration of the Renewal of Source Material License

No. SUA-917 for the Atlas Minerals Moab Uranium Mill," Docket No. 40-3453, February 22, 1988).

3.1.3 Population Distribution

According to the 1990 census, as updated in 1991, the population of Moab is approximately 4050, while the population of Grand County is 6800 (Utah Department of Employment Security). A detailed description of the demographics of the area is provided in Section 2.2.1 (Present Population) of the 1973 ER (Atlas, "Environmental Report, Moab, Utah Facility," August 31, 1973); Section 2.4 (Demography and Socioeconomic Profiles) of the FES (NRC, "Final Environmental Statement Related to Operation of Moab Uranium Mill, Atlas Minerals Division, Atlas Corporation," NUREG-0453, Docket No. 40-3453, January 1979); Appendix A to the U.S. Department of Energy, "Commingled Uranium Tailings Study" (June 30, 1982); and Section 2.1.2 (Demography) of the 1984 Renewal Application (Atlas, "Source Material License Renewal for the Atlas Minerals Moab Mill, Grand County, Utah, Source Material License No. SUA-917," May 1984). Population distribution changes are reported each year pursuant to License Condition No. 47 of the Atlas license (NRC Source Materials License No. SUA-917, Amendment No. 18, December 18, 1992). Atlas last submitted its annual survey on March 25, 1993, in a letter from Mr. Dale L. Edwards (Atlas) to Mr. Ramon E. Hall (NRC).

3.1.4 Use of Adjacent Land and Water

A detailed description of the use of adjacent land and water is provided in Section 2.2.3 (Present Land Ownership and Use) of the 1973 ER (Atlas, "Environmental Report, Moab, Utah Facility," August 31, 1973); Sections 2.5 (Land Use) and 2.6 (Water) of the FES (NRC, "Final Environmental Statement Related to Operation of Moab Uranium Mill, Atlas Minerals Division, Atlas Corporation," NUREG-0453, Docket No. 40-3453, January 1979); Sections 2.1.2.4.4 (Land Use), 2.3.1.2 (Ground Water Use), and 2.3.2.2 (Surface Water Use) of the 1984 Renewal Application (Atlas, "Source Material License Renewal for the Atlas Minerals Moab Mill, Grand County, Utah, Source Material License No. SUA-917," May 1984); and Section 2.1 (Land Use) of the 1988 EA (NRC, "Environmental Assessment in Consideration of the Renewal of

Source Material License No. SUA-917 for the Atlas Minerals Moab Uranium Mill," Docket No. 40-3453, February 22, 1988). Land and water use changes are reported each year pursuant to License Condition No. 47 of the Atlas license (NRC Source Materials License No. SUA-917, Amendment No. 18, December 18, 1992). Atlas last submitted its annual survey on March 25, 1993, in a letter from Mr. Dale L. Edwards (Atlas) to Mr. Ramon E. Hall (NRC).

In January 1991, the Nature Conservancy purchased approximately 660 acres of land along the bank of the Colorado River, opposite the Moab Mill facility. In December 1991, the Nature Conservancy deeded approximately 426 of those acres to the State of Utah Department of Natural Resources, Division of Wildlife Resources. Atlas does not believe there will be a significant change in the land use as a result of this transfer. The land was undeveloped before the sale and is expected to remain so under the new ownership.

3.2 METEOROLOGY

3.2.1 Winds

A detailed description of wind at the site is provided in Section 2.7 (Climate and Meteorology) of the 1973 ER (Atlas, "Environmental Report, Moab, Utah Facility," August 31, 1973); Section 2.1.2 (Winds) of the FES (NRC, "Final Environmental Statement Related to Operation of Moab Uranium Mill, Atlas Minerals Division, Atlas Corporation," NUREG-0453, Docket No. 40-3453, January 1979), and Section 2.2 (Meteorology) of the 1984 Renewal Application (Atlas, "Source Material License Renewal for the Atlas Minerals Moab Mill, Grand County, Utah, Source Material License No. SUA-917," May 1984).

3.2.2 Precipitation

A detailed description of precipitation at the site is provided in Section 2.7 (Climate and Meteorology) of the 1973 ER (Atlas, "Environmental Report, Moab, Utah Facility," August 31, 1973); Section 2.1.3 (Precipitation) of the FES (NRC, "Final Environmental Statement Related to Operation of Moab Uranium Mill, Atlas Minerals Division, Atlas Corporation," NUREG-0453, Docket No. 40-3453, January 1979), and Section 2.2 (Meteorology) of the 1984 Renewal

Application (Atlas, "Source Material License Renewal for the Atlas Minerals Moab Mill, Grand County, Utah, Source Material License No. SUA-917," May 1984).

3.2.3 Storms

A detailed description of storms at the site is provided in Section 2.7 (Climate and Meteorology) of the 1973 ER (Atlas, "Environmental Report, Moab, Utah Facility," August 31, 1973); Section 2.1.4 (Storms) of the FES (NRC, "Final Environmental Statement Related to Operation of Moab Uranium Mill, Atlas Minerals Division, Atlas Corporation," NUREG-0453, Docket No. 40-3453, January 1979), and Section 2.2 (Meteorology) of the 1984 Renewal Application (Atlas, "Source Material License Renewal for the Atlas Minerals Moab Mill, Grand County, Utah, Source Material License No. SUA-917," May 1984).

3.3 AIR QUALITY

A detailed description of the site air quality is provided in Section 2.9.3 (Air) of the 1973 ER (Atlas, "Environmental Report, Moab, Utah Facility," August 31, 1973); Section 2.2 (Air Quality) of the FES (NRC, "Final Environmental Statement Related to Operation of Moab Uranium Mill, Atlas Minerals Division, Atlas Corporation," NUREG-0453, Docket No. 40-3453, January 1979); and Appendix A to the U.S. Department of Energy document "Commingled Uranium Tailings Study" (June 30, 1982).

3.4 ECOLOGY

3.4.1 Terrestrial

A detailed description of the terrestrial biota at the site is provided in Section 2.8 (Ecology) of the 1973 ER (Atlas, "Environmental Report, Moab, Utah Facility," August 31, 1973) and Section 2.9.1 (Terrestrial) of the FES (NRC, "Final Environmental Statement Related to Operation of Moab Uranium Mill, Atlas Minerals Division, Atlas Corporation," NUREG-0453, Docket No. 40-3453, January 1979).

3.4.2 Aquatic

A detailed description of the aquatic biota at the site is provided in Section 2.8.2 (Wildlife) of the 1973 ER (Atlas, "Environmental Report, Moab, Utah Facility," August 31, 1973) and Section 2.9.2 (Aquatic) of the FES (NRC, "Final Environmental Statement Related to Operation of Moab Uranium Mill, Atlas Minerals Division, Atlas Corporation," NUREG-0453, Docket No. 40-3453, January 1979).

3.4.3 Rare and Endangered Species

A detailed description of the rare and endangered species at the site is provided in Section 2.8.2 (Wildlife) of the 1973 ER (Atlas, "Environmental Report, Moab, Utah Facility," August 31, 1973) and Section 2.9 (Biota) of the FES (NRC, "Final Environmental Statement Related to Operation of Moab Uranium Mill, Atlas Minerals Division, Atlas Corporation," NUREG-0453, Docket No. 40-3453, January 1979). The 1973 ER identified two endangered species that might be found in the Colorado River: the humpback chub (*Gila cypha*) and the Colorado squawfish (*Ptychocheilus lucius*). In a letter dated August 28, 1992, from Mr. Robert D. Williams (U.S. Fish and Wildlife Service) to Mr. David L. Meyer (NRC), two additional fish species that were identified in the 1973 ER and that inhabit the Colorado River were placed on the endangered list: the bonytail chub (*Gila elegans*) and the razorback sucker (*Xyrauchen texanus*).

In Section 2.1 of the 1988 EA (NRC, "Environmental Assessment in Consideration of the Renewal of Source Material License No. SUA-917 for the Atlas Minerals Moab Uranium Mill," Docket No. 40-3453, February 22, 1988), NRC restates the conclusion from the FES that the mill facility would have no effect on these species in the Colorado River. Atlas believes that the impacts associated with the activities described in the 1992 Reclamation Plan are within the realm of impacts to wildlife expected in the FES (e.g., Sections 4.6, 7.6, and 9.3), including the potential impacts associated with the two species identified in the 1973 ER that are now endangered.

3.5 HYDROLOGY

3.5.1 Groundwater

A detailed description of the groundwater at the site is provided in Section 2.6.1 (Groundwater) of the 1973 ER (Atlas, "Environmental Report, Moab, Utah Facility," August 31, 1973); Section 2.6.2 (Groundwater) of the FES (NRC, "Final Environmental Statement Related to Operation of Moab Uranium Mill, Atlas Minerals Division, Atlas Corporation," NUREG-0453, Docket No. 40-3453, January 1979); Section 2.3.1 (Ground Water) of the 1984 Renewal Application (Atlas, "Source Material License Renewal for the Atlas Minerals Moab Mill, Grand County, Utah, Source Material License No. SUA-917," May 1984); the EnecoTech, Inc., document "Ground Water Hydrology, Detection Monitoring Program, Atlas Minerals Moab Uranium Mill, Grand County, Utah," (February 25, 1988); and the Western Technologies, Inc., document "Draft/Final, Atlas/Moab, Uranium Mill and Tailings Corrective Action Plan, Moab, Utah," (March 1989).

3.5.2 Surface Water

A detailed description of the surface water at the site is provided in Section 2.6.2 (Surface Water) of the 1973 ER (Atlas, "Environmental Report, Moab, Utah Facility," August 31, 1973); Section 2.6.1 (Surface Water) of the FES (NRC, "Final Environmental Statement Related to Operation of Moab Uranium Mill, Atlas Minerals Division, Atlas Corporation," NUREG-0453, Docket No. 40-3453, January 1979); Section 2.3.2 (Surface Water) of the 1984 Renewal Application (Atlas, "Source Material License Renewal for the Atlas Minerals Moab Mill, Grand County, Utah, Source Material License No. SUA-917," May 1984); the EnecoTech, Inc., document "Ground Water Hydrology, Detection Monitoring Program, Atlas Minerals Moab Uranium Mill, Grand County, Utah," (February 25, 1988); and the Western Technologies, Inc., document "Draft/Final, Atlas/Moab, Uranium Mill and Tailings Corrective Action Plan, Moab, Utah," (March 1989).

3.6 GEOLOGY

3.6.1 Regional

A detailed description of the regional geology at the site is provided in Section 2.4 (Geology) of the 1973 ER (Atlas, "Environmental Report, Moab, Utah Facility," August 31, 1973); Section 2.7.1 (Geology) of the FES (NRC, "Final Environmental Statement Related to Operation of Moab Uranium Mill, Atlas Minerals Division, Atlas Corporation," NUREG-0453, Docket No. 40-3453, January 1979); and Section 2.4.1 (Geology) of the 1984 Renewal Application (Atlas, "Source Material License Renewal for the Atlas Minerals Moab Mill, Grand County, Utah, Source Material License No. SUA-917," May 1984).

3.6.2 Geomorphology

A detailed description of the geomorphology at the site is provided in Section 2.4 (Geology) of the 1973 ER (Atlas, "Environmental Report, Moab, Utah Facility," August 31, 1973); Section 2.7.1 (Geology) of the FES (NRC, "Final Environmental Statement Related to Operation of Moab Uranium Mill, Atlas Minerals Division, Atlas Corporation," NUREG-0453, Docket No. 40-3453, January 1979); the Water Engineering and Technology, Inc., document "Geomorphic Evaluation of the Long Term Stability of Below-Grade Disposal System Site, Atlas Minerals Uranium Extraction Facilities, Moab, Utah," January 1982, which is included in the 1984 Renewal Application, and Section 2.4.1.1 (Soils) of the 1984 Renewal Application (Atlas, "Source Material License Renewal for the Atlas Minerals Moab Mill, Grand County, Utah, Source Material License No. SUA-917," May 1984).

3.6.3 Mineral Resources

A detailed description of the mineral resources at the site is provided in Section 2.7.2 (Mineral Resources) of the FES (NRC, "Final Environmental Statement Related to Operation of Moab Uranium Mill, Atlas Minerals Division, Atlas Corporation," NUREG-0453, Docket No. 40-3453, January 1979).

3.6.4 Seismicity

A detailed description of the seismicity at the site is provided in Section 2.5 (Seismicity) of the 1973 ER (Atlas, "Environmental Report, Moab, Utah Facility," August 31, 1973); Section 2.7.3 (Seismicity) of the FES (NRC, "Final Environmental Statement Related to Operation of Moab Uranium Mill, Atlas Minerals Division, Atlas Corporation," NUREG-0453, Docket No. 40-3453, January 1979); and Section 2.4.2 (Seismology) of the 1984 Renewal Application (Atlas, "Source Material License Renewal for the Atlas Minerals Moab Mill, Grand County, Utah, Source Material License No. SUA-917," May 1984).

3.7 HISTORIC AND CULTURAL RESOURCES

3.7.1 Archeological

A detailed description of the archeological resources at the site is provided in Section 2.3 (Regional Historic and Natural Landmarks) of the 1973 ER (Atlas, "Environmental Report, Moab, Utah Facility," August 31, 1973); Section 2.5.2 (Historical and Archeological Resources) of the FES (NRC, "Final Environmental Statement Related to Operation of Moab Uranium Mill, Atlas Minerals Division, Atlas Corporation," NUREG-0453, Docket No. 40-3453, January 1979); and Section 2.1 of the 1988 EA (NRC, "Environmental Assessment in Consideration of the Renewal of Source Material License No. SUA-917 for the Atlas Minerals Moab Uranium Mill," Docket No. 40-3453, February 22, 1988).

The above referenced documents state that the area immediately surrounding the mill is devoid of any historical or archeological sites. In fact, agricultural and industrial activities over the years have disturbed the entire surface area at the mill facility. In March 1993, the Utah State Historical Society confirmed the absence of cultural resource sites at the Moab Mill facility. The only structure onsite with any potential historical significance is the mill facility itself because of its connection with the uranium industry boom of the 1950s.

3.7.2 Scenic, Cultural, and Natural Landmarks

As described in Section 2.5.2 (Historical and Archeological Resources) of the FES (NRC, "Final Environmental Statement Related to Operation of Moab Uranium Mill, Atlas Minerals

Division, Atlas Corporation," NUREG-0453, Docket No. 40-3453, January 1979), much of the public land near the mill is used for its scenic and recreational values. For example, Canyonlands National Park, Dead Horse Point State Park, and the Manti-La Sal National Forest are within a 50-mile radius of the mill. Arches National Park is within 2 miles of the mill. Section 2.3 (Regional Historic and Natural Landmarks) of the 1973 ER (Atlas, "Environmental Report, Moab, Utah Facility," August 31, 1973) states that there are no sites within 40 miles of the mill that are listed on the National Register of Historic Places. In addition, other than Arches National Park, there are no sites in the immediate vicinity of the mill that are listed on the National Registry of Natural Landmarks.

3.8 NATURAL RADIATION ENVIRONMENT

A detailed description of the natural radiation environment at the site is provided in Section 2.9 (Background Radiological Characteristics) of the 1973 ER (Atlas, "Environmental Report, Moab, Utah Facility," August 31, 1973), and Section 2.10 (Natural Radiation Environment) of the FES (NRC, "Final Environmental Statement Related to Operation of Moab Uranium Mill, Atlas Minerals Division, Atlas Corporation," NUREG-0453, Docket No. 40-3453, January 1979).

4.0 DECOMMISSIONING AND RECLAMATION PLAN DESIGN

4.1 MILL DECOMMISSIONING

Atlas currently has an NRC-approved mill decommissioning plan (Atlas Minerals Division of Atlas Corporation, "Decommissioning Plan for the Moab Mill, Moab, Utah," November 30, 1987), which is identified in License Condition No. 21 of the Atlas license (NRC Source Materials License No. SUA-917, Amendment No. 18, December 18, 1992). Mill decommissioning activities are also summarized in the 1992 Reclamation Plan (Canonie Environmental, "Atlas Corporation Reclamation Plan, Uranium Mill and Tailings Disposal Area, Report," June 1992).

Initially, the mill and appurtenant facilities will be demolished. The mill debris will be crushed and/or cut to the extent possible, hauled, and disposed in the tailings impoundment or one of two proposed areas adjacent to the impoundment. Materials will be placed within the disposal area in a controlled manner to minimize voids within the debris. The primary mill debris disposal area will be within the existing collection basin at the south end of the impoundment.

4.2 TAILINGS DISPOSAL

Atlas has prepared a variety of documents addressing the reclamation of the tailings impoundment beginning with an investigation conducted by Morrison-Knudsen entitled "Moab Uranium Plant, Tailings Storage Study," (August 1980). Atlas' original reclamation plan was prepared by Dames & Moore in 1981 (Dames & Moore, "Report, Conceptual Design and Cost Estimate, Tailings Pile Reclamation," May 29, 1981) and was described in the Source Material License Renewal Application submitted to NRC in 1984. The reclamation plan was revised in 1988 (Canonie Environmental, "Reclamation Plan, Uranium Mill and Tailings Disposal Area, Engineer's Report," August 1988). Atlas responded to NRC comments (Canonie Environmental, "Reclamation Plan, Uranium Mill and Tailings Disposal Area, Response to NRC Comments," January 1989) and submitted technical specifications in January 1989 (Canonie Environmental, "Reclamation Plan, Uranium Mill and Tailings Disposal Area, Technical Specifications," January 1989). After submittal of the 1989 responses, Atlas received comments from the NRC dated November 14, 1991, and revised the 1988 reclamation plan in June 1992 (Canonie

Environmental, "Atlas Corporation Reclamation Plan, Uranium Mill and Tailings Disposal Area, Report," June 1992).

As noted in the June 8, 1989, letter from Mr. Robert D. Martin (NRC) to Mr. Richard E. Blubaugh (Atlas), placement of an interim/final radon barrier on the tailings impoundment becomes the initial step in the site reclamation program. Atlas began placing its interim/final cover in August 1989, as reported to the NRC on December 11, 1989. As described in the 1992 Reclamation Plan, reclamation will also include regrading of the tailings impoundment slopes to a 10H:3V finished grade. Excess material from the slopes will be used in local areas on top of the impoundment to provide surface-water drainage and the design contours. Following mill decommissioning, contaminated soil outside of the impoundment will be removed and either placed in the mill debris disposal areas or used as fill over the tailings to attain the design contours. The areas outside the impoundment include windblown tailings and contaminated soil northwest of the impoundment, affected soil from the mill area and ore pad, and affected soil from an area adjacent to and southeast of the impoundment within the floodplain of the Colorado River. These areas were addressed in the 1988 EA (NRC, "Environmental Assessment in Consideration of the Renewal of Source Material License No. SUA-917 for the Atlas Minerals Moab Uranium Mill," Docket No. 40-3453, February 22, 1988) at page 26.

The final soil cover layer on top of the impoundment will contain clay from the Mancus Shale formation. Additional soil used as cover for the top and the sides of the impoundment will be obtained from excavating a new channel into which Moab Wash will be directed. The channel will entirely contain the probable maximum flood (PMF) and will therefore protect the reclaimed impoundment from potential damage caused by flood. Upon completion of the soil cover, all surface collection ditches on the impoundment will be installed, riprap will be placed in all ditches as appropriate, and the entire area will be finished, graded, and covered with a soil-rock matrix.

Erosion protection for the final soil cover will be provided by rock armor over all outside slopes and soil-rock matrix on the impoundment top. The rock mulch and riprap placed to control erosion on the impoundment top, embankments, and in the ditches are expected to be comprised of igneous rock obtained from one of two types of rock sources, including round

alluvial granitic cobbles or crushed angular diorite from a new quarry developed specifically for the reclamation.

4.3 ASSESSMENT OF COMPLIANCE WITH APPENDIX A TO 10 CFR PART 40 WITH PARTICULAR ATTENTION TO CRITERIA 1 AND 3

Atlas believes that the 1992 Reclamation Plan complies with the requirements found in Appendix A to 10 CFR Part 40. Atlas initially prepared a detailed Appendix A compliance evaluation in Section 5.5.10 (Tailings Reclamation Performance Objectives and Appendix A Specifications) of the 1984 Renewal Application (Atlas, "Source Material License Renewal for the Atlas Minerals Moab Mill, Grand County, Utah, Source Material License No. SUA-917," May 1984). However, because of modifications to the original reclamation plan, the following sections have been included to evaluate the current plan and the criteria in Appendix A relevant to reclamation:

4.3.1 Criterion 1

According to Criterion 1, the general goal or broad objective in siting and design decisions is to permanently isolate tailings and associated contaminants by minimizing disturbance and dispersion by natural forces, and to do so without ongoing maintenance.

A detailed discussion of the isolation criteria is provided in Section 5.5.10.1 (Isolation of Tailings and Associated Contaminants) of the 1984 Renewal Application (Atlas, "Source Material License Renewal for the Atlas Minerals Moab Mill, Grand County, Utah, Source Material License No. SUA-917," May 1984). Atlas believes the 1992 Reclamation Plan will also meet the requirements of Criterion 1 as further described in Section 6.0 (Erosion Control) of the 1992 Reclamation Plan.

4.3.2 Criterion 3

Criterion 3 states that the "prime option" for disposal of tailings is placement below grade, either in mines or specially excavated pits (that is, where the need for any specially constructed retention structure is eliminated). The evaluation of alternative sites and disposal methods

performed by mill operators in support of their proposed tailings disposal program must reflect serious consideration of this disposal mode.

Atlas provided a detailed evaluation of Criterion 3 in its 1981 report prepared by Woodward-Clyde entitled "Below Grade Tailings Disposal System, Atlas Minerals Uranium Extraction Facility, Moab, Utah." A copy of that report was included as Appendix 5.5.10 of the 1984 Renewal Application (Atlas, "Source Material License Renewal for the Atlas Minerals Moab Mill, Grand County, Utah, Source Material License No. SUA-917," May 1984).

The Woodward-Clyde report contemplated placement of new tailings in the below grade cell. Because the criterion addresses the disposal of new waste material, not existing tailings material, and because additional tailings will not be generated at the facility, the below grade requirements of Criterion 3 are not applicable to the 1992 Reclamation Plan. However, regardless of the applicability, the feasibility of this disposal method is unlikely due to insufficient area available at the mill site and the close proximity of the natural water table to the surface.

4.3.3 Criterion 4

Criterion 4 identifies site and design criteria for tailings disposal. Criteria pertinent to the tailings reclamation are identified below, along with a brief statement discussing the 1992 Reclamation Plan compliance.

4.3.3.1 Upstream Catchment Area

The 1992 Reclamation Plan contains design measures to control surface-water runoff that fulfill the design objective of not allowing the release of radiation for at least a 1000-year period on the basis of a Probable Maximum Precipitation (PMP) event evaluation. An evaluation was conducted that assessed the stability of riprap and tailings with respect to Moab Wash and the Colorado River. A detailed discussion of the surface-water controls is provided in Section 5.0 (Surface Water Hydrology) of the 1992 Reclamation Plan (Canonic Environmental, "Atlas Corporation Reclamation Plan, Uranium Mill and Tailings Disposal Area, Report," June 1992).

4.3.3.2 Wind Protection

The prevailing wind direction is westerly to south-westerly. Windblown tailings would be expected to be located west and southwest of the impoundment. However, because of the effects of surrounding topography, the majority of tailings have been deposited over an approximately 20-acre area to the northwest of the impoundment. Windblown tailings have been removed from this area in the past, and little additional work is expected as part of the reclamation action. Moreover, the reclaimed areas are designed to be stable from the perspective of both wind and water erosion.

4.3.3.3 Side Slopes

Atlas evaluated various regrading plans for reclamation of the tailings disposal impoundment and concluded that the most technically viable and cost-efficient configuration is a 10H:3V side slope and a channel-type top. A detailed discussion of the design is provided in Sections 3.0 (Tailings Impoundment Regrading Evaluation) and 4.0 (Soil Cover Design) of the 1992 Reclamation Plan (Canonic Environmental, "Atlas Corporation Reclamation Plan, Uranium Mill and Tailings Disposal Area, Report," June 1992). Atlas also considered several regrading options in the 1988 reclamation plan (Canonic Environmental, "Reclamation Plan, Uranium Mill and Tailings Disposal Area, Engineer's Report," August 1988). In short, the design will result in public health benefits because potential surface-water infiltration into the covered tailings will be reduced by the steeper slopes, thereby minimizing the potential for seepage contact, and the slopes will result in less risk to worker and public health because of reduced quantities of exposed tailings during reclamation activities. The channel top will limit settlement of the tailings, reduce subsequent cracking and damage to the soil cover, and minimize long-term maintenance requirements.

4.3.3.4 Erosion Protection

As described in Section 6.0 (Erosion Protection) of the 1992 Reclamation Plan (Canonic Environmental, "Atlas Corporation Reclamation Plan, Uranium Mill and Tailings Disposal Area, Report," June 1992), the methods and materials used to provide erosion protection to the tailings

impoundment (e.g., rock armor on the sides and top of the impoundment) are suitable to protect the site for at least a 1000-year period and during the occurrence of the PMP.

4.3.3.5 Faults

As described in Section 5.5.10.4 (Site and Design Criteria) of the 1984 Renewal Application (Atlas, "Source Material License Renewal for the Atlas Minerals Moab Mill, Grand County, Utah, Source Material License No. SUA-917," May 1984), no "capable fault" that could cause a "maximum credible earthquake," as those terms are defined in Criterion 4(e), exists near the tailings impoundment. Additional information regarding faults and earthquakes in the vicinity of the site can be found in the Atlas document "Safety Analysis Report," August 28, 1975, and in the Water Engineering and Technology, Inc., document "Geomorphic Evaluation of the Long Term Stability of Below-Grade Disposal System Site, Atlas Minerals Uranium Extraction Facilities, Moab, Utah," January 1982, which is included in the 1984 Renewal Application.

4.3.4 Criterion 6

Criterion 6 requires that an earthen cover must be placed over tailings at the end of milling operations to provide reasonable assurance of control of radiological hazards to (1) be effective for 1000 years, to the extent reasonably achievable, and, in any case, for at least 200 years and (2) limit releases of radon-222 from uranium by-product material to the atmosphere so as not to exceed an average release rate of 20 picocuries per square meter per second ($\text{pCi}/\text{m}^2/\text{s}$) to the extent practicable throughout the effective design life.

As described in Section 4.0 (Soil Cover Design) of the 1992 Reclamation Plan (Canonic Environmental, "Atlas Corporation Reclamation Plan, Uranium Mill and Tailings Disposal Area, Report," June 1992), the soil cover design consists of both a clay and a borrow soil layer designed to reduce radon emissions. The radon barrier layer of the final soil cover was designed to limit, to the extent practicable, the radon-222 release to an average release rate of less than $20 \text{ pCi}/\text{m}^2/\text{s}$ over a 1000-year design period. In areas where slimes are present, the fine tailings will be covered with at least 7 feet of coarse tailings and 16 inches of other site soil. In areas where slimes are not present, the tailings will be covered with a minimum of 16 inches of other site soil.

The required soil cover thickness for radon attenuation over the tailings and site soil consists of approximately 6 inches of clay and 6 inches of borrow. The required soil cover thickness on the embankments will consist of 7 feet of borrow soil.

5.0 EVALUATION OF DECOMMISSIONING AND RECLAMATION ACTIVITIES

5.1 ALTERNATIVE RECLAMATION ACTIONS

Reclamation alternatives have been presented and evaluated in several prior documents. Alternatives were originally explored in a 1977 Atlas report (Dames & Moore, "Tailings Management and Reclamation, Alternatives Study for Atlas Minerals Mill at Moab, Utah, Revised," October 14, 1977). Section 10.3 (Alternative Methods For Tailings Management) of the FES (NRC, "Final Environmental Statement Related to Operation of Moab Uranium Mill, Atlas Minerals Division, Atlas Corporation," NUREG-0453, Docket No. 40-3453, January 1979) contained a detailed analysis of alternatives for tailings reclamation and mill decommissioning. The 1992 Reclamation Plan closely resembles the preferred alternative identified by NRC in the FES. However, the FES alternatives were designed to meet a 2 pCi/m²/s standard rather than the current 20 pCi/m²/s standard.

Atlas evaluated several additional tailings disposal alternatives in the Morrison-Knudson report entitled "Moab Uranium Plant, Tailings Storage Study" (August 1980). These early evaluations, however, included the need to continue milling operations in addition to reclamation of the existing tailings impoundment. That need is not included in the 1992 Reclamation Plan. Atlas believes that the evaluations conducted on the alternatives in the early studies remain valid, and that the impacts associated with the action described in the 1992 Reclamation Plan are within the realm of impacts expected in the FES. Nonetheless, Atlas has considered the alternatives with regard to the 1992 Reclamation Plan, including relocation of the tailings, in this ER Supplement.

A brief description is given below for each alternative in the original FES evaluation to clarify the discussion of the alternatives to the 1992 Reclamation Plan. This is followed with an evaluation of the 1992 Reclamation Plan and its alternatives.

5.1.1 Final Environmental Statement Alternatives

5.1.1.1 Alternative 1

Alternative 1 consists of shaping and contouring the pile such that slime tailings will be covered by at least 5 feet of nonslime tailings and final slopes are not steeper than 10H:3V. The

tailings would be capped with clay imported from offsite, in turn overlain by silty fine sand obtained from the site and by 1 foot of topsoil. The thickness of the clay layer would be 1 foot over nonslime areas and would be 1.5 feet in areas where 5 feet of nonslimes overlies slimes. The thickness of silty fine sand would be 2.3 feet in nonslime areas and 2.7 feet in areas where 5 feet of nonslimes overlies slimes. After covering, the area would be revegetated with appropriate plant species.

5.1.1.2 Alternative 2

Alternative 2 is similar to Alternative 1 except that a gravel shell would be used instead of vegetative stabilization. Tailings would be covered with clay imported from offsite, overlain in turn by silty fine sand obtained from the site and site vicinity, and finally covered by durable sandy gravel. The gravel thickness would be 4 inches on relatively flat parts of the pile and 1 foot on slopes. The thickness of the silty fine sand would be 2.8 feet over nonslimes, or 5.4 feet over slimes covered with 5 feet of nonslimes. The clay thickness would be 1 foot thick in nonslime areas and 1.5 feet thick in areas where 5 feet of nonslimes overlies the slimes.

5.1.1.3 Alternative 3

Alternative 3 is similar to Alternative 1 except that no imported clay liner is used. The tailings would be covered with 6.4 feet (over nonslimes) or 9.0 feet (over slimes covered with 5 feet of nonslimes) of silty fine sand, in turn covered with 1 foot of topsoil. The pile would be revegetated with appropriate plant species.

5.1.1.4 Alternative 4

Alternative four would use an artificial liner (polyvinyl chloride plastic) to control radon emanation and to prevent groundwater percolation through the stabilized tailings pile. The liner would be held in place with a soil cover of 1.5 to 2.3 feet, which would then be revegetated with appropriate plant species.

5.1.1.5 Alternative 5

Alternative 5 consists of transporting the tailings offsite to Site A, a box canyon located approximately 6.8 miles northwest of the present site, for permanent storage. The tailings and any contaminated soil underlying the tailings would be transported by truck to Site A. The site would not be lined to prevent seepage because the tailings would be unsaturated and the clay cap would preclude future leaching of the tailings by infiltrating rainwater. The slimes portion of the tailings would be buried deeply by nonslimes. The tailings placed at Site A would be covered with 1 foot of clay imported from another site, overlain in turn by 2.3 feet of silty fine sand from the vicinity and 1 foot of topsoil. The site would be revegetated with appropriate plant species.

5.1.1.6 Alternative 6

Alternative 6 is similar to Alternative 5 except the tailings would be moved to Site B, an area of low rolling hills with an abundance of clay located approximately 15 miles northwest of the present site, for permanent storage after mill shutdown. Transport of the tailings and reclamation of the site would be the same as described for Alternative 5 except the tailings would be covered with 4 feet of clay.

5.1.1.7 Alternative 7

Alternative 7 consists of establishing a new tailings impoundment at Site A. The impoundment area would be prepared by constructing a water retention-type dam across the north face of the area. The impoundment area would be lined with clay. Tailings would be transported to the site from the Moab Mill by a 10.5-mile pipeline approximately following U.S. Highway Route 160 in Moab Canyon. The existing tailings would be hydraulically mined and would be added to the tailings produced by the mill for transport to Site A. Excess water at Site A would be decanted and returned to the mill by pipeline. Reclamation of the old tailings retention area would begin as soon as all old tailings have been removed. Contaminated soil underlying the pond area would be excavated and transported to Site A by truck. The old tailings area would be contoured and revegetated with appropriate plant species. Reclamation of the new tailings area at Site A would begin when it has reached sufficient dryness. The tailings would be shaped and

contoured and then covered with a clay liner, silty sand, and topsoil with a thickness similar to those described for Alternative 1. The area would be revegetated with appropriate plant species.

5.1.1.8 Alternative 8

Alternative 8 is similar to Alternative 7 except that Alternative 8 involves transporting the tailings to Site B instead of Site A for permanent storage. Reclamation would be similar except that the tailings would be covered by local clay soil.

5.1.1.9 Alternative 9

Alternative 9 consists of transporting the tailings to the Rio Algom tailings area for permanent storage. Transport and reclamation of the tailings would begin as soon as the tailings had reached sufficient dryness. The tailings and any contaminated soil underlying the tailings would be transported to the Rio Algom site by truck. The new site would not be lined to prevent seepage because the tailings would not be saturated and the cap would prevent leaching of the tailings by rainwater. The slimes portion of the tailings would be buried deeply by the nonslimes portion. The tailings would then be covered by 4 feet of clayey alluvial material obtained from the vicinity. The area would be revegetated with appropriate plant species.

5.1.1.10 Alternative 10

Alternative 10 is similar to Alternatives 5 and 6 except that tailings would be moved to Site A or Site B by a conveyor system and the railroad. Tailings would be removed from the existing tailings area following mill shutdown by use of an automatic scraper-type reclaimer. Material from the reclaimer would be deposited upon a conveyor that would transport the tailings to the Rio Grande Railroad west of the site. The railroad would transport the tailings to either Site A or Site B, for which a spur track would be constructed. A conveyor system would be used to distribute the tailings at the disposal site. Reclamation of the disposal site would be as described for Alternatives 5 and 6.

Cost estimates were made for completion of each of the 10 alternatives, based on 1977 dollars, and are summarized below.

<u>Cost Comparison</u>			
<u>Alternative</u>	<u>Action</u>	<u>Cost (1977)</u> <u>(\$ 000,000)</u>	<u>Cost Ratio</u>
1	Onsite	3.3	0.9
2	Onsite	3.6	1.0
3	Onsite	5.4	1.5
4	Onsite	3.4	0.9
5	Offsite	44.0	12.2
6	Offsite	52.0	14.4
7	Offsite	18.3	5.1
8	Offsite	21.7	6.0
9	Offsite	72.0	20.0
10	Offsite	31.9	8.9

Alternative 2 was selected by NRC as the preferred alternative on the basis of performance factors and economics. Consequently, cost ratios shown in the above table are calculated using Alternative 2 as the preferred alternative. NRC concluded that Alternative 2 represented the most environmentally sound, reliable, and reasonable method of tailings management. The action described in the 1992 Reclamation Plan closely resembles Alternative 2.

5.1.2 1992 Reclamation Plan Alternatives

The ten alternatives described above can be grouped into two general concepts: onsite reclamation (Alternatives 1, 2, 3, and 4) and offsite disposal (Alternatives 5, 6, 7, 8, 9, and 10). Additional offsite disposal alternatives were evaluated in this study, including those described in the Morrison-Knudsen report "Moab Uranium Plant, Tailings Storage Study," August 1980, and the shipment of tailings to the Umetco White Mesa uranium mill near Blanding, Utah.

For purposes of this review, Atlas evaluated the 1992 Reclamation Plan as Option 1, the offsite disposal alternatives as Option 2, and the no action alternative as Option 3. Objectives in Appendix A to 10 CFR Part 40 were used as a basis for evaluating the various options. Atlas has carefully reevaluated the alternatives for onsite reclamation, offsite disposal, and no action and determined that the 1992 Reclamation Plan is the option that most closely meets the criteria in Appendix A to 10 CFR Part 40.

Atlas is awaiting plan approval before developing cost estimates for the 1992 Reclamation Plan. For purposes of the cost-benefit analysis to this alternatives evaluation, Atlas has relied on

the cost ratios calculated from the FES. It is assumed that costs for each alternative in the FES have escalated proportionately over the years and provide a qualitative comparison between alternatives, even though offsite costs may be disproportionately higher because of increased regulatory and permitting requirements. The results of this analysis conform with the NRC guidance memorandum entitled "Environmental Report Content and Outline Position, Uranium Mill Decommissioning and Reclamation."

5.1.2.1 Option 1 (In-place Reclamation)

Option 1 is the reclamation of tailings described in 1992 Reclamation Plan (Canonic Environmental, "Atlas Corporation Reclamation Plan, Uranium Mill and Tailings Disposal Area, Report," June 1992), and briefly discussed in Section 4.0 above. Atlas considered several tailings impoundment regrading options in the 1988 reclamation plan (Canonic Environmental, "Reclamation Plan, Uranium Mill and Tailings Disposal Area, Engineer's Report," August 1988). Atlas determined that the impoundment top configuration in the 1992 Reclamation Plan, which varies from the preferred alternative in the FES, provides the same protection at a lower cost.

Benefits of Option 1 are as follows:

- Reclamation of the impoundment in its existing location will not add to further environmental degradation or disturbance
- Reclamation in-place will not cause additional radiological releases as a result of disturbing the tailings impoundment
- Reclamation will proceed in a more timely manner because a reclamation plan has been prepared
- Reclamation in-place eliminates potential contamination of otherwise uncontaminated sites and reduces the proliferation of disposal sites
- Reclamation in-place is more cost effective

Adverse factors of Option 1 are as follows:

- Tailings remain near the Colorado River and the City of Moab.

Atlas believes that the decommissioning and reclamation action described in Option 1 is the best option on the basis of the net, tangible positive benefits in comparison to the other options. In addition, the adverse factors can be addressed through adequate armoring of the impoundment.

5.1.2.2 Option 2 (Offsite Disposal)

Several offsite disposal options were discussed in the FES (Alternatives 5, 6, 7, 8, 9, and 10). In general, these options require transportation, either by truck, train, or pipeline, to remote sites northwest of the mill facility. A new containment structure would be constructed at the new site to hold the tailings. Atlas has carefully reviewed the existing alternatives documents and believes that the evaluations and conclusions in those documents remain valid and that the anticipated impacts associated with offsite disposal are still within the realm of the impacts expected in the FES.

Benefits of Option 2 are as follows:

- Remote site away from the City of Moab and the Colorado River for tailings disposal

Adverse factors of Option 2 are as follows:

- Loss of Site A or Site B for other land uses
- High energy consumption associated with transportation of the tailings material
- Substantial increase in noise, dust, and congestion created by transportation and construction activities associated with moving the tailings
- Increased radiological health affects from disturbing the tailings impoundment and subsequent transportation
- Increased infiltration of precipitation caused by exposure of tailings during excavation activities
- Increased chance of accidents involving personal injury and/or death during excavation and transportation of tailings material
- Timeframe for reclamation activities would be greatly extended
- New disposal sites will require review under Section 106.0 of the National Historic Preservation Act
- Residual contamination may still be left at the impoundment site after tailings removal

Atlas does not recommend Option 2 for decommissioning and reclamation of the tailings at Moab Mill. Option 1, reclamation in-place, offers better suitability and benefits for construction, prevention of environmental degradation, permitting, and costs.

5.1.2.3 Option 3 (No Action)

Under Option 3, no action would be taken with respect to reclamation activities. Atlas has evaluated this option, but has chosen Option 1 as the preferred alternative for the following reasons:

- Failure to meet the performance criteria specified in Appendix A of 10 CFR Part 40 and Atlas' source material license
- Increased operation and maintenance requirements
- Increased radiological health affects
- Decreased net benefits to the environment

Atlas does not recommend Option 3 for decommissioning and reclamation of the tailings at Moab Mill. Option 1, reclamation in-place, offers better suitability and benefits for construction, prevention of environmental degradation, permitting, and costs.

5.2 UNAVOIDABLE ADVERSE ENVIRONMENTAL IMPACTS

A detailed description of the unavoidable adverse environmental impacts at the site is provided in Section 7.0 (Unavoidable Adverse Environmental Impacts) of the FES (NRC, "Final Environmental Statement Related to Operation of Moab Uranium Mill, Atlas Minerals Division, Atlas Corporation," NUREG-0453, Docket No. 40-3453, January 1979). Atlas believes that the impacts associated with activities described in the 1992 Reclamation Plan are within the realm of impacts expected in Section 7.0 of the FES.

5.3 POTENTIAL ACCIDENTS

A detailed description of the potential accidents at the site is provided in Section 7.0 (Environmental Effect of Accidents) of the 1973 ER (Atlas, "Environmental Report, Moab, Utah Facility," August 31, 1973) and Section 5.0 (Environmental Effects of Accidents) of the FES

(NRC, "Final Environmental Statement Related to Operation of Moab Uranium Mill, Atlas Minerals Division, Atlas Corporation," NUREG-0453, Docket No. 40-3453, January 1979). Atlas believes that the impacts associated with activities described in the 1992 Reclamation Plan are within the realm of impacts expected in Section 5.0 of the FES.

5.4 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

A detailed description of the irreversible and irretrievable commitments of resources at the site is provided in Section 9.0 (Irreversible and Irretrievable Commitments of Resources) of the FES (NRC, "Final Environmental Statement Related to Operation of Moab Uranium Mill, Atlas Minerals Division, Atlas Corporation," NUREG-0453, Docket No. 40-3453, January 1979). Atlas believes that the impacts associated with activities described in the 1992 Reclamation Plan are within the realm of impacts expected in Section 9.0 of the FES.

5.5 RELATIONSHIP BETWEEN LOCAL AND SHORT-TERM USES OF MAN'S ENVIRONMENT AND MAINTENANCE OF LONG-TERM PRODUCTIVITY

A detailed description of the relationship between local and short-term uses of man's environment and maintenance of long-term productivity at the site is provided in Section 8.0 (Relationship Between Short-term Uses of the Environment and Long-term Productivity) of the FES (NRC, "Final Environmental Statement Related to Operation of Moab Uranium Mill, Atlas Minerals Division, Atlas Corporation," NUREG-0453, Docket No. 40-3453, January 1979). Atlas believes that the impacts associated with activities described in the 1992 Reclamation Plan are within the realm of impacts expected in Section 8.0 of the FES.

5.6 SOCIOECONOMIC IMPACTS

A detailed description of the socioeconomic impacts at the site is provided in Section 4.8 (Socioeconomic Impacts) of the FES (NRC, "Final Environmental Statement Related to Operation of Moab Uranium Mill, Atlas Minerals Division, Atlas Corporation," NUREG-0453, Docket No. 40-3453, January 1979). Atlas believes that the impacts associated with activities described in the 1992 Reclamation Plan are within the realm of impacts expected in the FES.

5.7 COST-BENEFIT BALANCE OF ENVIRONMENTAL ACTION AND ALTERNATIVES

A detailed description of the cost-benefit balance of environmental action and alternatives at the site is provided in Section 11.0 (NRC Benefit-Cost Summary for the Atlas Mill) of the FES, (NRC, "Final Environmental Statement Related to Operation of Moab Uranium Mill, Atlas Minerals Division, Atlas Corporation," NUREG-0453, Docket No. 40-3453, January 1979). Atlas believes that the impacts associated with activities described in the 1992 Reclamation Plan are within the realm of impacts expected in Section 11.0 of the FES.

6.0 ENVIRONMENTAL MONITORING DURING DECOMMISSIONING AND RECLAMATION ACTION

A detailed description of the environmental monitoring is provided in the 1984 Renewal Application (Atlas, "Source Material License Renewal for the Atlas Minerals Moab Mill, Grand County, Utah, Source Material License No. SUA-917," May 1984); the EnecoTech, Inc., document "Ground Water Hydrology, Detection Monitoring Program, Atlas Minerals Moab Uranium Mill, Grand County, Utah," (February 25, 1988); Sections 2.0 (Environmental and Radiological Impacts) and 3.0 (Effluent and Environmental Monitoring Programs) of the 1988 EA (NRC, "Environmental Assessment in Consideration of the Renewal of Source Material License No. SUA-917 for the Atlas Minerals Moab Uranium Mill," Docket No. 40-3453, February 22, 1988); and the conditions specified in NRC Source Materials License No. SUA-917, Amendment No. 18 (December 18, 1992). Atlas annually submits groundwater, surface-water, and radiological monitoring data to NRC. In addition, Atlas expects to conduct postreclamation groundwater and surface-water monitoring on a semiannual basis.

7.0 PERMITS NEEDED FOR DECOMMISSIONING AND RECLAMATION AND
APPLICABLE ENVIRONMENTAL STANDARDS

Decommissioning the Moab Mill and reclamation of the tailings in accordance with the 1992 Reclamation Plan is the most feasible, cost-beneficial, and preferred alternative. Atlas believes that the potential permits that may be required will include a dredge and fill permit under Section 404 of the Clean Water Act for activities near the Colorado River and Moab Wash, and permits for the cover material quarry and borrows.

DISTRIBUTION

ENVIRONMENTAL REPORT SUPPLEMENT
ATLAS CORPORATION
ATLAS URANIUM MILL
GRAND COUNTY, UTAH

April 6, 1993
Copy No. 12

		<u>Copy No.</u>
10 copies:	Mr. Richard E. Blubaugh Atlas Corporation Republic Plaza 370 Seventeenth Street, Suite 3150 Denver, CO 80202	1 - 10
15 copies:	Mr. Ramon E. Hall Uranium Recovery Field Office, Region IV U.S. Nuclear Regulatory Commission P.O. Box 25325 Denver, CO 80225	11 - 25
3 copies:	HLA Files	26 - 28

QUALITY CONTROL REVIEWER

Gerald L. Zimpfer, Ph.D.
Associate Environmental Scientist

trustees as well as disqualified persons with respect to the Plan.¹

This proposed exemption is conditioned on the following requirements: (1) The sale represents a one-time transaction for cash; (2) the sales price is based upon the appraised value of the Property as determined by a qualified, independent appraiser; and (3) the Plan does not pay any real estate fees or commissions in connection therewith.

For a more complete statement of the facts and representations supporting the Department's decision to grant this exemption, refer to the notice of proposed exemption published on June 2, 1993 at 58 FR 31429.

For Further Information Contact: Ms. Jan D. Broady of the Department, telephone (202) 219-8881. (This is not a toll-free number.)

General Information

The attention of interested persons is directed to the following:

(1) The fact that a transaction is the subject of an exemption under section 408(a) of the Act and/or section 4975(c)(2) of the Code does not relieve a fiduciary or other party in interest or disqualified person from certain other provisions to which the exemptions does not apply and the general fiduciary responsibility provisions of section 404 of the Act, which among other things require a fiduciary to discharge his duties respecting the plan solely in the interest of the participants and beneficiaries of the plan and in a prudent fashion in accordance with section 404(a)(1)(B) of the Act; nor does it affect the requirement of section 401(a) of the Code that the plan must operate for the exclusive benefit of the employees of the employer maintaining the plan and their beneficiaries;

(2) These exemptions are supplemental to and not in derogation of, any other provisions of the Act and/or the Code, including statutory or administrative exemptions and transactional rules. Furthermore, the fact that a transaction is subject to an administrative or statutory exemption is not dispositive of whether the transaction is in fact a prohibited transaction; and

(3) The availability of these exemptions is subject to the express condition that the material facts and representations contained in each application accurately describes all

¹ Because Dr. Brice and his wife are the sole participants in the Plan, there is no jurisdiction under title I of the Employee Retirement Income Security Act of 1974 (the Act). However, there is jurisdiction under title II of the Act pursuant to

material terms of the transaction which is the subject of the exemption.

Signed at Washington, DC, this 14th day of July 1993.

Ivan Strasfeld,

Director of Exemption Determinations,
Pension and Welfare Benefits Administration,
U.S. Department of Labor.

[FR Doc. 93-17044 Filed 7-6-93; 8:45 am]

BILLING CODE 4510-29-P

NATIONAL COMMISSION ON FINANCIAL INSTITUTION REFORM, RECOVERY, AND ENFORCEMENT

Meeting

AGENCY: National Commission on Financial Institution Reform, Recovery and Enforcement.

Time and Date: 9:30 a.m. to 12:00 p.m.,
Tuesday, July 27, 1993.

Place: Main Lounge, National Press Club,
13th Floor, 529 14th Street NW., Washington,
DC 20045.

Status: The meeting will be open to the public.

Matters to be Considered: At the meeting, the Commission shall release its final report to the President and Congress on the origins and causes of the savings and loan crisis and the Commission's recommendations for reform.

Contact Persons for Additional Information: Larry G. Hicks or Linda Johnson on (202) 632-1556.

Larry G. Hicks,

Director of Administration.

[FR Doc. 93-17152 Filed 7-19-93; 8:45 am]

BILLING CODE 6829-PD-M

NUCLEAR REGULATORY COMMISSION

[Docket No. 40-3453]

Atlas Minerals Corp.; Intent to Amend
Source License

AGENCY: U.S. Nuclear Regulatory
Commission.

ACTION: Notice of intent to amend Source Material License SUA-917 for the Moab Mill to approve a plan for reclamation of the mill's tailings disposal area as supported by a finding of no significant impact regarding the proposed action for Atlas Corporation, Utah.

SUMMARY: The Nuclear Regulatory Commission is proposing to amend Source Material License SUA-917 to incorporate a revised tailings disposal area reclamation plan for Atlas Corporation's Moab Mill located near Moab, Utah. The accepted plan reclaims the disposal area in place. The proposed action is supported by a Finding of No

Significant Impact as concluded in the Environmental Assessment prepared by the Commission.

DATES: The comment period expires August 19, 1993.

ADDRESSES: Copies of the license amendment request and the staff evaluations which are the bases for revision of the license are available for inspection at the Uranium Recovery Field Office, 730 Simms Street, suite 100, Lakewood, Colorado, and the NRC Public Document Room, 2120 L Street, NW. (Lower Level), Washington, DC.

Comments should be mailed to David L. Meyer, Chief, Rules Review and Directives Branch, Office of Administration, P-223, U.S. Nuclear Regulatory Commission, Washington, DC 20555, with a copy to the Director, Uranium Recovery Field Office, U.S. Nuclear Regulatory Commission, P.O. Box 25325, Denver, Colorado 80225.

Comments may be hand-delivered to room P-223, 7920 Norfolk Avenue, Bethesda, Maryland, between 7:30 a.m. and 4:15 p.m., Federal workdays.

FOR FURTHER INFORMATION CONTACT: Ramon E. Hall, Director, Uranium Recovery Field Office, Region IV, U.S. Nuclear Regulatory Commission, P.O. Box 25325, Denver, Colorado 80225. Telephone: (303) 231-5800.

SUPPLEMENTARY INFORMATION: The U.S. Nuclear Regulatory Commission (NRC) and the Environmental Protection Agency (EPA) entered into a Memorandum of Understanding (MOU) which was published in the Federal Register on October 25, 1991 (56 FR 55434). The MOU requires that the NRC complete review and approval of detailed reclamation (i.e., final closure plans for nonoperational tailings impoundments as soon as practicable but in any event not later than September of 1993.

The tailings disposal area for the Moab Mill contains approximately 1 million tons of material. Tailings were disposed into an approximately 130-acre diked impoundment constructed a maximum height of about 110 feet Moab Wash, an ephemeral channel, located along the north and east side of the impoundment and discharges in the Colorado River east of the site. The Colorado River flows along the east side of the facility.

The reclamation plan that was prepared in 1981, and approved by in 1982, was based on projected disposal capacity requirements and designed for an ultimate crest elevation of 4076 feet mean sea level (msl). The maximum crest elevation constructed during mill operations was 4058 feet msl, resulting in the necessity to

redesign the reclamation plan. In accordance with 10 CFR part 40, appendix A, the licensee, Atlas Corporation, submitted a revised reclamation plan by letter dated August 2, 1988. Review of the proposed plan resulted in requests for additional information, reevaluation, and redesign. As a result, Atlas submitted a revised reclamation plan by letter dated June 4, 1992. Review of this document resulted in a request for additional information dated March 5, 1993. Revisions to the June 4, 1992, reclamation plan were submitted by letters dated April 14, and April 23, 1993.

On April 6, 1993, the licensee submitted an Environmental Report Supplement in support of the proposed revised reclamation plan for the disposal area. This document was submitted as a supplement to the Environmental Report submitted in 1973 by the licensee, NRC's "Final Environmental Statement, Moab Uranium Mill," (NUREG-0453, January 1979), NRC's "Final Generic Environmental Impact Statement on Uranium Milling," (NUREG-0706, September 1980), and Atlas' license renewal application dated 1984. The supplement specifically addresses the expected impacts associated with mill tailings reclamation and evaluates alternatives for mitigating the impacts. The Environmental Assessment was prepared by the Commission to evaluate the proposed licensing action. It was concluded that the reclamation of the tailings in accordance with the proposed plan would not have a significant impact on the environment. Short-term impacts to the environment will be minimal, while long-term impacts will be reduced to levels determined to be acceptable by promulgation of appendix A to 10 CFR part 40. The bases for the finding of no significant impact (FONSI) are provided in an Environmental Assessment.

Review and independent analyses of the revised reclamation plan for the Moab Mill disposal area have resolved all engineering issues and open items regarding reclamation of the disposal area except as noted, and it is concluded that the proposed design is consistent with current design guidance and applicable portions of 10 CFR part 40, appendix A. The bases for this determination are provided in the Memorandum for Docket File No. 40-3453 dated July 7, 1993. It is proposed to amend Source Material License SUA-917 by deleting License Condition No.

41. The licensee shall reclaim the tailings disposal area in accordance with Sections 1, 4, 5, 6, and 9 of the June 4, 1992, submittal entitled "Atlas Corporation, Technical Specifications, Uranium Mill and Tailings Disposal Area Reclamation" as revised by the April 14, 1993, submittal, and with the drawings submitted by letter dated April 23, 1993, with the following exceptions:

A. The sandy soil layer of the radon barrier shall be 1 foot over the coarse tailings and 2 feet over the fine tailings. The drawings and specifications must be revised and submitted to reflect this change in the design by October 31, 1993.

B. The fenced restricted area shall include the reconfigured Moab Wash. Drawing 88-067-E66 (April 23, 1993) shall be revised and submitted to reflect this change in the design by October 31, 1993.

C. The licensee shall submit a revised outslope design by October 31, 1993, for review and approval that assumes Moab Wash encroaches upon the embankment.

D. The licensee shall submit an erosion protection design for the Northeast Debris Pit located adjacent to the toe of the reclaimed disposal area by October 31, 1993. That protection shall consider flows from Moab Wash and runoff from the reclaimed outslope during a design basis event.

E. The bulk specific gravity of the rock shall be determined by ASTM C 127.

F. Durability testing of the rock portion of the soil/rock matrix shall be performed at the same frequency as that specified for riprap in Section 9.3.4.1 of the specifications dated April 14, 1993.

A completion report including as-built drawings, verifying that reclamation of the site has been performed according to the approved plan shall be provided within 6 months of the completion of construction. The report shall also include summaries of results of the quality assurance and control testing to demonstrate that approved specifications were met.

Ramon E. Hall,

Director, Uranium Recovery Field Office,
Region IV.

[FR Doc. 93-17182 Filed 7-19-93; 8:45 am]

BILLING CODE 7590-01-M

**Advisory Committee on Reactor
Safeguards Subcommittee on
Improved Light Water Reactors;
Meeting**

hold a meeting on August 4, 1993, in room P-110, 7920 Norfolk Avenue, Bethesda, MD.

The entire meeting will be open to public attendance.

The agenda for the subject meeting shall be as follows:

Wednesday, August 4, 1993-8:30 a.m. until the conclusion of business.

The Subcommittee will discuss NRC staff's response to ACRS comments and recommendations related to certain policy, technical, and licensing issues pertaining to evolutionary and advanced light-water reactor designs. Also, the Subcommittee will discuss the staff positions on certain remaining policy issues for passive plant designs. The purpose of this meeting is to gather information, analyze relevant issues and facts, and to formulate proposed positions and actions, as appropriate, for deliberation by the full Committee.

Oral statements may be presented by members of the public with the concurrence of the Subcommittee Chairman; written statements will be accepted and made available to the Committee. Recordings will be permitted only during those portions of the meeting when a transcript is being kept, and questions may be asked only by members of the Subcommittee, its consultants, and staff. Persons desiring to make oral statements should notify the ACRS staff member named below as far in advance as is practicable so that appropriate arrangements can be made.

During the initial portion of the meeting, the Subcommittee, along with any of its consultants who may be present, may exchange preliminary views regarding matters to be considered during the balance of the meeting.

The Subcommittee will then hear presentations by and hold discussions with representatives of the NRC staff, its consultants, and other interested persons regarding this review.

Further information regarding topics to be discussed, the scheduling of sessions open to the public, whether the meeting has been cancelled or rescheduled, the Chairman's ruling on requests for the opportunity to present oral statements and the time allotted therefor can be obtained by a prepaid telephone call to the cognizant ACRS staff engineer, Dr. Medhat El-Zeftawy (telephone 301/492-9901) between 7:30 a.m. and 4:45 p.m. (EDT). Persons planning to attend this meeting are urged to contact the above named individual one or two days before the scheduled meeting to be advised of any changes that may have

**ENVIRONMENTAL ASSESSMENT
FOR THE RECLAMATION OF THE
ATLAS MOAB TAILINGS IMPOUNDMENT
DOCKET NO. 40-3453
JULY 1993**

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1.0 PURPOSE AND NEED FOR THE PROPOSED ACTION

Atlas Corporation (Atlas) submitted a proposed tailings reclamation plan for the Moab Mill to the NRC for review by letter dated August 2, 1988, as revised by submittals dated January 17, 1989, June 4, 1992, April 14, and April 23, 1993. These submittals were in accordance with Criterion 9 of Appendix A to 10 CFR 40, which requires that financial surety arrangements be established by each uranium mill operator to assure that sufficient funds are available to carry out the decontamination of the facility and reclamation of the tailings or waste disposal area. Criterion 9 further states that the amount of funds to be insured by the surety arrangements must be based on a Commission-approved plan for the reclamation of the tailings and waste areas in accordance with technical criteria delineated in Criterion 6 of Appendix A.

On April 6, 1993, the licensee submitted an Environmental Report Supplement in support of the Moab Mill reclamation plan. This document was submitted as a supplement to the Environmental Report submitted in 1973 by the licensee, NRC's Final Environmental Statement published in 1979, NRC's Final Generic Environmental Impact Statement of 1980, and Atlas' license renewal application dated 1984. The supplement describes the expected impacts associated with mill tailings reclamation and evaluates alternatives for mitigating the impacts:

The proposed action is to approve the licensee's proposed plan which calls for the reclamation of the tailings impoundment in place, covering the tailings with a soil cover to reduce radon emanation, reconfiguring the surface of the tailings impoundment to drain toward three collection ditches, and flattening the embankment side slopes to 10 horizontal to 3 vertical (10H:3V) or less. The three collection ditches will merge to form a drainage channel which will convey flood runoff from the reclaimed tailings surface into Moab Wash. Moab Wash will be reconfigured to convey flood flows into the Colorado River east of the tailings pile. On the southwest side of the tailings embankment, another drainage channel will divert runoff from the natural sandstone bluffs southwest of the channel. To protect against erosion, the top of the tailings impoundment will be covered with a layer of compacted rock and soil and the embankment side slopes will be covered with rock native to the region.

2.0 CHARACTERISTICS AND OPERATIONAL HISTORY

A. Operational History of the Mill Facility

The Moab Mill commenced operations in October of 1956, under the ownership of Uranium Reduction Company (URC). The mill was acquired from URC by Atlas Corporation in 1962. The mill initially processed ore from the Big Indian Uranium District of southeast Utah, but later processed ore from private mines in other districts. Operations at the mill ceased in April 1984. During the life of the mill, only one tailings impoundment area was used. The tailings impoundment covers about 53 hectares (130 acres) and was constructed to a height of 33.5 meters (110 feet).

B. Description of Mill Facility

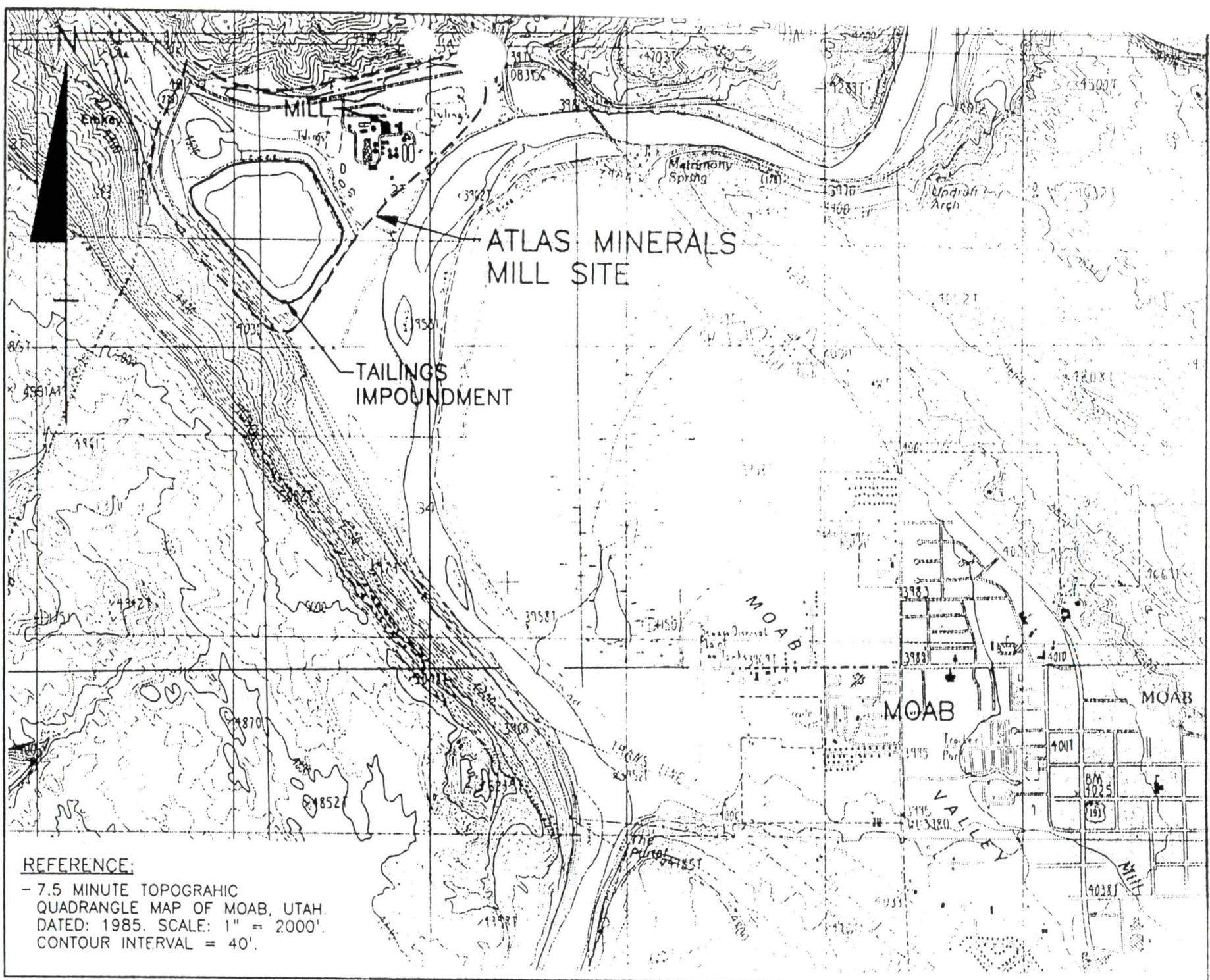
The Atlas facility is located on the west bank of the Colorado River, 5 km (3 miles) northwest of the city of Moab (see Figure 1). The processing facility and tailings pond combined, cover an approximate 81 hectares (200 acres) of an available 162 hectares (400 acres) owned by Atlas. The mill was authorized to extract uranium oxide (yellowcake) by both the acid and alkaline leach processes. The mill was licensed for production at 850 MT (1,870,000 pounds) of yellowcake annually.

The plant site is composed of a main processing plant, a 53-hectare tailings pond, storage yards, ore receiving facilities, various process-related structures, and office complex. These structures and facilities are enclosed by a four-strand barbed wire fence which prevents random access. All structures, including the office complex, will be razed during decommissioning of the facility. For additional information including a description of the mill facility, refer to the "Final Environmental Statement Related to Operation of Moab Uranium Mill, Atlas Minerals Division, Atlas Corporation," January 1979, and the "Decommissioning Plan for the Moab Mill, Moab, Utah," submitted by letter dated November 17, 1987.

C. Description and Characteristics of Tailings

The majority of the ore for the Atlas Mill came from the Big Indian Uranium District approximately 130 km (80 miles) to the southeast. The ore was primarily a sandstone with minor amounts of carbonate. Ore was trucked to the mill, ground to a sufficiently fine consistency to allow maximum efficient chemical reactions to occur. It was then processed through either the acid-leach circuit or the alkaline-leach circuit, both of which were used in this mill. Preanalysis of the mineral content of the ore would determine which circuit the ore would be processed through. After milling, the combined waste slurry from both circuits was pumped to the tailings impoundment.

The approximate wet weight of the tailings contained within the tailings impoundment is determined to be 7 million metric tons (11 million tons). The tailings basin is composed of fine tailings (slimes), coarse tailings (sand), and ore which was placed there at the end of operation of the mill as part of the interim cover. A composite analysis of the tailings by Atlas, determined that the average radium activity of the slimes was 1275 picocuries per gram (pCi/g) and that of the sands was 241 pCi/g. The activity of the ore was determined to be at 213 pCi/g radium. For additional information on the tailings, refer to "Atlas Corporation Reclamation Plan Uranium Mill and Tailings Disposal Area," submitted June 4, 1992, as revised by submittals dated April 14 and 23, 1993, and the "FES Related to Operation of Moab Uranium Mill, Atlas Minerals Division, Atlas Corporation," January 1979.



Source: From Atlas Corporation's
 Reclamation Construction
 Drawings 7/22/88

Figure 1

D. Description of Ground Water and Corrective Action Plan

The principal bedrock aquifers in the area of the mill are the Navajo and Wingate sandstones. Locally, these units are fractured and produce abundant quantities of potable waters. Where fracturing is absent, they are much lower yielding units. Unconsolidated Quaternary sediments are deposited on top of these Navajo and Windgate sandstones. The Quaternary sediments are derived from weathering of the bedrock formations. Where these units are of sufficient thickness, they are water bearing. Where they thin out or are eroded, these units are generally intermittent water resources.

The Colorado River is located to the east of the mill area. Throughout most of the year, it is an expression of the ground-water surface in the neighboring Quaternary sediments, which in this area are termed alluvium. Precipitation that originates in the upland bedrock surrounding the mill area, recharges the bedrock as well as the Quaternary sediments. These ground waters then flow around and under the mill site prior to discharging to the Colorado River. Depending upon the stage of the Colorado River, the alluvium adjacent to the mill area may receive recharge from the river or it may discharge to the river. Regardless of the stage of the river, there is no direct contact of the river water with the tailings. The tailings are deposited in the impoundment to a depth of 1208.5 meters (3965 ft) above mean sea level, while the normal elevation of the river is 1207.0 meters (3960 ft) above mean sea level.

During the largest storm event, the probable maximum flood would cause the river to rise to an elevation of 1216.4 meters (3990.8 feet). This is a short duration, high intensity storm event that would experience rapid dissipation of flood waters. During such an event, flood waters would be higher than the bottom of the tailings impoundment. Although the reclaimed tailings impoundment would remain stable during this flood, there would be increased potential for tailings liquor to move into the alluvium and enter the Colorado River. Original licensing efforts at the site realized this as a potential impact to the Colorado River. Due to this, the total failure of the tailings impoundment, at full capacity, was modeled. The analysis in the Environmental Impact Statement supporting licensing, indicated that due to the dilution of the Colorado River, no ground or surface water impacts could be measured.

Seepage from the impounded mill tailings has taken place at the site. Ground water in the alluvium has elevated levels of radionuclides, metals as well as dissolved species. Accordingly, Atlas was required to implement a corrective action program. The program is focused upon dewatering the tailings. A series of wells have been completed within the tailings impoundment. These wells withdraw contaminated water and evaporate it to the atmosphere, leaving the contaminants on the tailings surface where they are to be reclaimed with the other byproduct

materials. Several wells in the area of the mill are sampled to record the effects of this program. The projected date for completion of ground-water corrective actions is December 1998.

For additional information on the mill site ground water and corrective action program, refer to "FES Related to Operation of Moab Uranium Mill, Atlas Minerals Division, Atlas Corporation," January 1980; "Uranium Mill Tailings and Corrective Action Plan, Moab, Utah," March 1989; Memorandum to File 40-3453, Ground Water Corrective Action Program, dated June 22, 1990, January 17, 1992, and February 22, 1993; and License Condition No. 17 of Source Material License SUA-917.

3.0 ENVIRONMENTAL CHARACTERISTICS OF THE MILL SITE

A. Geography and Demography

(1) Site Location

The Moab Mill is located in Grand County, Utah. The mill structure is located on the northwest shore of the Colorado River, 5 km (3 miles) northwest of Moab. The main office complex of the mill can be accessed by taking U.S. Highway 191 north out of Moab for approximately 5 km.

(2) Site Description

The Atlas mill encompasses 162 hectares (400 acres) on the outside bend of the Colorado River, at the northern terminus of the Moab Canyon. The site is surrounded on the north and west sides by high sandstone cliffs. To the east and south is the flood plain of the Colorado River and the city of Moab. The elevation at the mill is approximately 1130 meters (3700 feet) above MSL.

The mill grounds slope generally towards the Colorado River and Moab Wash. The substrate upon which the mill was constructed is composed mainly of deposited alluvial materials brought down the Moab Canyon and Colorado River. Adjacent to the mill site on the north and west are U.S. Highway 191 and Utah Highway 279, respectively. The Rio Grande Railroad traverses a small section of Atlas property, just west of Highway 279, prior to entering a tunnel that emerges many kilometers down river.

(3) Population Distribution

The 1990 population census shows a population of 4050 individuals living in the city of Moab. The population of Grand County is 6800 as determined by the Utah Department of Employment Security. The 1980 census for Moab showed a population of 5333 persons, while the county had a population of about 8200 individuals. From this information, it can be determined that the population has declined by 24 percent in Moab, and by 17 percent for the county since the 1980 census.

The population within a 10 km radius of the mill, according to a 1980 Atlas study, was 3132 persons. The staff determined that about 2490 persons live within the 10 km radius in 1990. A review of the 1970 population data indicates that the population for the 10 km radius has been decreasing since that time.

The area within a 1.5 km radius of the tailings impoundment is sparsely populated. During the spring of 1992, Atlas determined that there were five people living in the 1.5 km radius, and these people were located in the east-northeast quadrant. The near edge of town is located about 2 km to the east of the tailings impoundment. The population density, determined from information supplied by Atlas in their March 1993 Land Use Survey, for a 3 km radius of the mill site is about 8 persons per square kilometer.

(4) Use of Adjacent Land and Waters

The lands within a 1-km radius of the property are used for a variety of activities. Rafting is conducted on the Colorado River which flows through the 1-km radius. Commercial businesses, such as sporting equipment rentals, and recreational vehicle camping lie within the radius. State Highway 279 and U.S. Highway 191, both adjacent to the site, are major transportation routes for industry and tourist in this region of Utah. The Rio Grande Railroad, just west of the mill site, transports bulk goods through this section of the State. Some hiking, biking, and rock climbing occurs within the 1-km radius.

B. Meteorology

(1) Wind

Wind records for the site show a prevailing wind direction from the west-southwest. Some cold air drainage occurs on calm days from the southeast. Records indicate that the winds blow under 3 m/s (6 MPH) 50 percent of the time. High winds are rare in the mill area due to the protection afforded the local topography. The tailings impoundment is located on the west bank of the Colorado River adjacent to a steep sandstone wall several hundred feet high. This wall protects the site from strong linear winds from the west and southwest. High winds can occur from off the river, but as mentioned earlier, these winds are rare.

(2) Precipitation

The climate for the Atlas mill area is considered arid to semiarid. The average annual precipitation for the facility is about 21 cm (8.2 inches). Precipitation amounts are about equally distributed throughout the year with October normally receiving the most precipitation during the year in the form of regional rain storms. Some snow will fall during the winter months, but

total accumulations are normally low. The Moab area does not suffer from an abundance of precipitation, and can occasionally experience drought conditions.

(3) Storms

The Atlas Mill area experiences a mid-latitude semiarid to arid climate. Thunderstorms are common during the summer months, and can be accompanied by high winds and hail. Tornadoes can occur in this part of Utah, but are rare in the Moab area. Winter storms normally are not severe, but deep snows have been recorded. Subfreezing temperatures are common during winter months, but severe cold periods occur only rarely. Ice storms are very infrequent.

C. Air Quality

Air quality in the area of the mill is considered good. There are few sources of industrial air pollutants in the region, but their influence on the air quality of Moab is slight. Railroading along with truck and car traffic is the major contributor to airborne hydrocarbons in the Atlas Mill area. Some particulate matter is present during the winter months from wood burning and home heating.

Atlas monitors the air on a continuous basis for radionuclides at five separate sampling sites. These data are reported to the NRC on a semiannual basis. Radon-222 concentrations have been observed to be slightly elevated at one sampling station just east of the mill site. The higher readings obtained probably occur due to the nearness of the tailings pile and the low topography. Radon gas settles towards low areas because it is heavier than ambient air. When the tailings are completely covered with an engineered soil cover, radon levels should be reduced.

D. Ecology

(1) Terrestrial

The Atlas Mill site is situated in an area of diverse plant and animal communities due to the varied topography and the nearness of the Colorado River. The area's plant community is broadly classified as the Great Basin Desert Scrub which is also known as Southern Desert Shrub. Seven vegetational communities occur within proximity to the mill site: 1. blackbrush, 2. shadscale, 3. pinyon-juniper, 4. galleta-threeawn grassland, 5. badlands, 6. marsh grassland, and 7. riparian woodland. The shadscale community (a sagebrush type plant community) is by far the dominate community within 1.5 km of the mill site with riparian woodland and marsh grassland communities coming in second and third, respectively.

There are very few big game animals near the mill site. Occasionally mule deer and bighorn sheep are sighted. For the most part, smaller animals inhabit the areas around the mill due to the presence of people. Beaver, muskrats, cottontail, and various small rodents inhabit the Colorado River flood plain and associated marshes. Striped skunks, jackrabbit, and rodents inhabit the uplands areas adjacent to the mill.

Common avifauna (birds) of the area are represented by various ducks and geese along the river, and songbirds in the shadscale and riparian communities. A wide variety of non-game birds can be found in the Moab area. A variety of raptors hunt and nest in the area, among which is the uncommon prairie falcon.

Herpetofauna (amphibians and reptiles) common to the area would include a variety of turtles, frogs, toads, and salamanders indigenous to the Colorado River. Snakes, lizards, and a few toads can be found in the dryer sections of the terrain around the mill site. For more information on terrestrial biota, refer to the "FES Related to Operation of Moab Uranium Mill, Atlas Minerals Division, Atlas Corporation," January 1979, and "Environmental Report, Moab, Utah Facility," August 31, 1973.

(2) Aquatic

The Colorado River is the dominate aquatic environment in the mill area. No other permanent natural areas of clean water exist near the site. The Colorado River is host to approximately 20 different species of fish, 28 species of algae, 20 diatom species, and a variety of benthic invertebrates in the Atlas Mill area. These species have evolved to live in waters that are warm, turbid, and experience substantial seasonal fluctuations. Plants and animals typical of riparian environments, can be found across the river from the mill in the Moab Marsh.

(3) Rare and Endangered Species

There are four species of fish identified to be endangered by the U.S. Fish and Wildlife Service that may occur in the Colorado River near the mill site. These fish are the humpback chub (*Gila cypha*), Colorado squawfish (*Ptychocheilus lucius*), bonytail chub (*Gila elegans*), and the razorback sucker (*Xyrauchen texanus*). The prairie falcon, which occurs near the site, had been listed as rare, but has been delisted.

Decontamination and reclamation of the Atlas site should provide a long-term beneficial effect to the ecology of the area and particularly the Colorado River where the endangered fish occur. Reclamation is conducted to provide permanent isolation of the tailings, creating a radiologically stable environment. However, during construction activities, when temporary impacts such as runoff could occur, onsite environmental monitoring and

inspections conducted by both Atlas and NRC personnel will assure that work in progress is done in accordance with appropriate environmental safeguards. The staff, therefore, concludes that if the Colorado River is not adversely impacted, that the aquatic biota should also not be impacted.

E. Hydrology

(1) Ground Water

The major aquifers in the region are the Navajo sandstone, Wingate sandstone, and unconsolidated Quaternary deposits. The Navajo and Wingate sandstones compose much of the Glen Canyon Group and are of late Triassic to early Jurassic in age. Their collective thickness ranges from 168 to 336 m (550 to 1100 feet). Wells that utilize the Glen Canyon Group aquifers range in depth from 32 to 72 m (106 to 238 feet).

The alluvial sediments of the Quaternary deposits average about 20 m (70 feet) thick in the Moab Valley which includes the mill site. The alluvial deposits are the most actively used aquifer in the mill vicinity. Wells that utilize the alluvial aquifer are normally quite shallow and are rarely over 20 m deep.

The Colorado River is the main focus for ground-water movement in the area. Ground water moves east under the mill towards the Colorado River from the highlands to the west. On the other side of the river, ground water moves west under the town of Moab from the La Sal Mountains to the east. Under conditions when the river is high, ground-water recharge can take place where the water table under the mill site is elevated. During times of low flow in the Colorado River, the water table under the mill site will drop. This should have no effect on the reclaimed tailings due to the low permeability of the tailings base material. This is considered a seasonal phenomenon, but it can occur to a lesser degree on a daily cycle.

For more information on ground water, refer to the "FES Related to Operation of Moab Mill, Atlas Minerals Division, Atlas Corporation," January 1979, and "Safety Analysis Report, Atlas Minerals Division, Atlas Corporation, Moab Uranium Mill," Revision 1, August 28, 1975.

(2) Surface Water

There are three important surface water features near the mill site: Colorado River, Moab Canyon Wash, and Moab Marsh. The Colorado River is the major surface water stream in the vicinity of the Atlas Mill. It lies approximately 100 m (308 feet) east of the mill structure. The average annual discharge for the river is 2.1×10^6 m³/sec (7711 cfs). The Moab Canyon Wash drains an area of approximately 13 sq km (5 sq miles) west of the mill. The wash

is an intermittent stream that cuts across the site just north of the tailings impoundment. Moab Marsh is a 260 ha (650 acre) wetland across the river from the mill property that averages about 1.3 m (4 feet) deep.

F. Geology

(1) Regional

The Atlas Mill is located in the northern terminus of the Moab Valley which is part of the Canyonlands district of the larger Colorado Plateau physiographic province. The local valley is the result of a breached salt anticline which has, through down faulting, created an elongated depression. The valley walls are steep and in many places precipitous. The Colorado River has cut across the breached anticline, dissecting the Moab Valley, creating the valley's present appearance. Rock faces exposed near the mill range in age from Pennsylvanian to Jurassic, and are composed of sandstones, conglomerates, and shales. Alluvium also makes up much of the visible landscape near the mill.

(2) Geomorphology

The geomorphology of the region is quite dramatic due partly to the lack of vegetation to obscure the landscape. The regional geomorphology is characterized by intermittent streams draining through deeply incised canyons, rugged mesas, expansive plateaus, and towering laccolithic mountains.

The mill is situated at the base of a steep wall of sandstone at the northern end of the Moab Valley. The steep walls visible to the west and north of the mill are a result of down faulting of the Moab Valley. The Colorado River cuts through the valley and has deposited, along with additional materials brought down by the local Moab Canyon Wash, the deep alluvial sediments the mill stands on. The Moab Canyon Wash is typical of the region's drainage features - deeply incised canyons terminating at the Colorado River baseline. To the east and south of the mill is the Moab Valley, which is the result of a breached salt anticline, whose collapsed crest has formed the elongated Moab Valley. Further to the east are the La Sal Mountains, a laccolithic uplift that rise's to 4000 m (13,000 feet).

(3) Mineral Resources

Uranium ore was shipped to the mill for processing by truck from two mining districts. The most significant being the Big Indian mining district of the Colorado Plateau, 130 km (80 miles) to the southeast. Some ores were also brought from the Uravan mineral belt at approximately the same distance. Potash mining and processing is conducted 12 km (7.5 miles) to the southwest of the

Atlas Mill along the banks of the Colorado River. Oil production is also conducted southwest of the Atlas Mill a few kilometers west of the potash facility.

(4) Seismicity

The Atlas Mill is situated in an area of seismic stability. Very little risk from future seismic activity has been postulated for the Moab area. Minor earthquakes have occurred at the site in the recorded past, with the most significant tremor felt in 1953. This quake originated 70 km (45 miles) northwest of the site and caused no damage in the Moab Mill area.

G. Historic and Cultural

(1) Archaeological

There are no known archaeological sites on the mill property. The Atlas property has been greatly disturbed by farming prior to mill operation and by construction of the mill facilities. If any prehistoric remains are present, they are buried at depth. Southeast of the mill property, across the Colorado River, are a series of Anasazi ruins. Approximately 1 kilometer east of the mill complex is the historic crossing site of the Old Spanish Trail. The ruins of the Elk Mountain Mission are located 3 kilometers southeast of the mill. None of these sites will be impacted by reclamation of the tailings impoundment.

(2) Scenic, Cultural, and Natural Landmarks

There are a wealth of scenic areas near the mill site. The Colorado River adjacent to the facility is host to a constant flow of sightseeing rafters. Many of the roads that converge on the town of Moab are considered scenic highways. Arches National Park, an internationally known attraction, is 3.5 km northwest of the mill site. Also near the facility is Canyonlands National Park, Dead Horse Point State Park, and Manti-La Sal National Forest. Cultural resources are noted above, in the archaeology section. The only recorded site on the National Register of Natural Landmarks is Arches National Park. Recently, the Nature Conservancy purchased the Moab Marsh for preservation of habitat.

H. Natural Radiation Environment

Radiation in the natural environment in the Moab area is from cosmic, terrestrial, and atmospheric sources. Cosmic exposures, including cosmogenically derived radiation, total about 66 mrem/year per person in this section of Utah. Terrestrial radiation exposures from the rocks and soils around the Moab area contribute another 35 mrem/year per person. Exposures to naturally-occurring radon in the Grand County area

have been calculated to be about 1000 mrem/year to the lungs. The whole body dose in the Atlas area from natural background radiation is estimated to be between 100 and 110 mrem/yr.

4. DECOMMISSIONING AND RECLAMATION PLAN DESIGN

A. Mill Decommissioning

Atlas Corporation has an approved mill decommissioning plan. Active decommissioning operations started in the fall of 1992. This plan calls for the dismantling of the mill structure and all ancillary buildings. All contaminated facility components will be crushed or reduced in size by cutting to eliminate void space prior to disposal. Disposal will be done in or adjacent to the tailings impoundment. Materials will be placed in a controlled manner to minimize void spaces and reduce settlement. For further information on mill decommissioning, refer to "Decommissioning Plan for the Moab Mill, Moab, Utah," submitted November 30, 1987, and Memorandum to Docket File No. 40-3453, "Amendment No. 3 to Source Material License SUA-917 for Decommissioning Atlas Minerals Moab Mill, in Grand County, Utah.

B. Tailings Disposal

The reclamation plan for the Atlas Mill tailings, submitted by letter dated July 10, 1981, as revised August 2, 1988, January 17, 1989, June 4, 1992, April 14, and April 23, 1993, proposes to stabilize the material in place. Sufficient earthen cover will be placed over the tailings to prevent radon emanation above release criteria. Interim cover placement was started in August 1989, to begin the reclamation process. Embankment side slopes will be flattened to 10H:3V, except the south corner where the slopes will be 10H:1V, and the top of the impoundment will be contoured for drainage. Riprap will be placed where necessary to prevent erosion. The design life of the reclamation plan shall be 1000 years to the extent reasonably achievable. As required by Criterion 6 of Appendix A to 10 CFR 40, direct gamma radiation levels will be maintained near background levels, while radon releases will be maintained below an average of 20 picocuries per square meter per second. Prior to NRC approval, the reclamation plan shall meet the closure criteria as specified in Appendix A of 10 CFR 40.

For additional information concerning tailings disposal, refer to the Memorandum to Docket File No. 40-3453, "Proposed Amendment to Source Material License SUA-917 for Reclamation and Closure of Atlas Corporation's Moab Mill Disposal Area Near Moab, Utah," file concurrently with this document; "Report, Conceptual Design and Cost Estimate, Tailings Pile Reclamation," submitted July 10, 1981; "Reclamation Plan, Uranium Mill and Tailings Disposal Area, Engineer's Report," submitted August 2, 1988; "Reclamation Plan, Uranium Mill and Tailings Disposal Area, Technical Specifications," submitted January 17, 1989, and "Atlas Corporation Reclamation Plan, Uranium Mill and Tailings Disposal Area, Report," submitted June 4, 1992, as revised by submittals of April 14, and April 23, 1993.

C. Assessment of Compliance with Appendix A to 10 CFR 40

Appendix A to 10 CFR 40 establishes criteria for the technical, ownership, and long-term site surveillance criteria related to the siting, operation, decontamination, decommissioning, and reclamation of uranium milling facilities. Each site-specific licensing decision is to be based on the criteria in the appendix, taking into account the public health and safety and the environment. Decisions as to the ability of the design to meet "reasonably achievable" criteria must take into consideration the state of technology as well as a comparison of economic cost to resulting benefit.

The Appendix A criteria are considered for the proposed reclamation activities in the Memorandum For Docket No. 40-3453, titled, "Proposed Amendment to Source Material License SUA-917 for Reclamation and Closure of Atlas Corporation's Moab Mill Disposal Area Near Moab, Utah," dated concurrently with this environmental assessment. Please refer to that document for a comprehensive discussion of each appropriate criteria for reclamation of the tailings in place.

5.0 EVALUATION OF DECOMMISSIONING AND RECLAMATION ACTIONS

A. Alternative of No Action

The staff considers that the alternative of no action would place the Nuclear Regulatory Commission, the licensee, and other associated regulatory agencies in the position of not fulfilling their regulatory responsibilities. This alternative, is therefore, not legally or morally permissible. As a consequence, only alternatives for reclamation are considered.

B. Alternative Reclamation Actions

Atlas submitted in their supplemental environmental report eleven options for reclamation. From the list of eleven options, four options are variations on reclamation in place, three options are variations on relocation at a site 11 kilometers northwest of the mill, three options are variations on relocation at a site 24 kilometers northwest of the mill, and one option is burial within the Rio Algom, Lisbon tailings impoundment, which is 50 kilometers to the southeast. A review of the options is presented below, and is characterized as Alternatives 1 through 4. Each alternative can be summarized as follows:

1. Reclamation of the tailings in place;
2. Transportation and disposal of the tailings to a site 11 km to the northwest;
3. Transportation and disposal of the tailings to a site 24 km to the northwest; and

4. Haulage of the tailings to the Rio Algom facility 50 km to the southeast.

The advantages and disadvantages of each alternative will be evaluated. These evaluations/reviews are written on the information presented in the above sections, and the documents referenced in those sections. The cost estimates utilized for this evaluation were made by the licensee in 1977, and reviewed by the staff at that time in conjunction with Atlas' license renewal application. Although the estimates were not reevaluated in detail for this assessment, the relative costs between alternatives are considered correct in terms of magnitudes of the differences. Upon approval of a reclamation plan, the licensee will be required to submit a detailed reclamation cost estimate for review and approval so that the required surety can be adjusted as necessary. For further information on the alternatives, please refer to "Tailings Management and Reclamation Alternatives Study for Atlas Minerals Mill at Moab, Utah" (revised September, 1977), Dames & Moore, October 14, 1977.

C. Review of Each Alternative

(1) Alternative 1, Reclamation In Place

Atlas proposes to reclaim the tailings in place. The pile would be contoured to appropriate final slopes and capped with clay and sandy soil to prevent radon emanation. A final rock cover to prevent erosion would be placed over the clay cap. The reclamation would be designed and constructed in accordance with appropriate criteria of Appendix A to 10 CFR 40. The projected cost by Atlas for this action would be \$3.6 million in 1977 dollars. Adjusting for inflation, this would be about \$8.6 million in 1993 dollars.

Advantages:

- Reclamation in place would partially utilize the previously constructed impoundment, and interim reclamation actions completed to date.
- Reclamation in place would be the most expedient of the alternatives.
- Reclamation in place, where tailings would not have to be moved, would reduce the potential for industrial accidents and keep exposures as low as reasonably achievable.
- The cost involved in completing this alternative would be about one-fifth the cost of completing any of the other alternatives.
- Additional ecosystems would not be impacted by transportation to a pristine area.

- A wealth of baseline data concerning ground water, meteorological, and radiological parameters has been accumulated at the current site. These data can be used to access future monitoring needs and trends at the present site.

Disadvantages:

- In-place reclamation maintains the tailings in a higher population area than do the other alternatives.
- Alternative 1 is not a below-grade disposal option.
- In-place reclamation maintains the tailings in close proximity to the Colorado River.
- Loss of commercial property (200 acres) having access to the Colorado River.
- In-place reclamation subjects the impoundment to possible flooding from the Moab Wash.

(2) Alternative 2, Transportation of the Tailings to Site A

In this alternative, the tailings would be transported by one or more methods (truck, pipeline, conveyor system, or railroad) to Site A, which is located 11 km to the northwest of the former processing site. The tailings retention facility would be designed in accordance with the appropriate criteria contained in Appendix A to 10 CFR 40. Integral in this design would be the method by which the tailings were transported to the site. Wet or dry tailings would require different design features. The projected cost by Atlas of this alternative is \$18.3 million in 1977 dollars. Adjusting for inflation, this would be about \$43.7 million in 1993 dollars.

Advantages:

- A below-grade or near below-grade disposal system would be utilized.
- Tailings would be isolated away from population areas.
- Property of a lower commercial value would be used at this location as compared to river front property.
- Removal of the tailings impoundment from the floodplain of the Colorado River and Moab Wash.

Disadvantages:

- Increased time to complete reclamation of the tailings over Alternative 1. This would prevent Atlas from meeting the required deadline for completion of the final earthen cover to limit radon emissions to a flux of no more than 20 pCi/m²/s, as established in the Memorandum of Understanding (MOU) with Environmental Protection Agency (EPA). The MOU between EPA and the NRC was published in the Federal Register on October 15, 1991.
- Extensive use of nonrenewable energy resources (fossil fuels) for transportation of the tailings to the new site.
- The cost of Alternative 2 would greatly exceed Alternative 1. Atlas determined that the cost of Alternative 2 would be about five times greater than the cost of Alternative 1.
- The potential impact on worker safety, radiological safety, and environmental protection would be increased over Alternative 1.
- There would be a potential for contamination of previously uncontaminated lands due to tailings transportation.
- There would be a potential for ground-water contamination in an area previously pristine of tailings material.

(3) Alternative 3, Relocation of the Tailings to Site B

In this alternative, like Alternative 2, tailings would be transported by one or more independent methods to a disposal site designated Site B, which is located 24 km to the northwest of the present processing site. The tailings retention facility would be designed in accordance with the appropriate criteria contained in Appendix A to 10 CFR 40. Variations on this alternative would be the method by which the tailings are transported to the site. Wet or dry tailings would require different retention facility design. Atlas determined that the cost in completing this alternative would be \$21.7 million in 1977 dollars. Adjusting for inflation, this would be about \$51.9 million dollars.

Advantages:

- A below-grade or near below-grade disposal system would be utilized.
- Tailings would be isolated away from population areas.
- Property of a lower commercial value would be used at this site as compared to river front property.

- Removal of the tailings impoundment from the floodplain of the Colorado River and Moab Wash.

Disadvantages:

- Increased time to complete reclamation of the tailings over Alternative 1. This would prevent Atlas from meeting the required deadline for completion of the final cover to limit radon emissions to a flux of no more than 20 pCi/m²/s, as established in the MOU between the NRC and EPA.
- Extensive use of nonrenewable energy resources (fossil fuels) for transportation of the tailings.
- The cost of Alternative 3 would exceed Alternatives 1 and 2. Alternative 3 would cost about six times as much as Alternative 1 and almost 16 percent more than Alternative 2.
- The potential impact on worker safety, radiological safety, and environmental protection would be increased over Alternative 1 and somewhat over Alternative 2.
- There would be the potential for contamination of previously uncontaminated lands due to tailings transportation.
- There would be a potential for ground-water contamination in an area previously pristine of tailings material.

(4) Alternative 4, Transportation by Truck to the Rio Algom, Lisbon Mill Site

In this alternative, the tailings and all associated contaminated materials would be transported 50 km to the southeast to be disposed in the Rio Algom, Lisbon tailings impoundment. The impoundment would be expanded to accept the Atlas tailings to maintain compliance with Appendix A to 10 CFR 40. Atlas determined that the cost of this alternative would be \$72.0 million in 1977 dollars. Adjusting for inflation, this would be about \$172.0 million in 1993 dollars.

Advantages:

- Nonproliferation of disposal sites. Combining tailings from two facilities under one cover.
- Tailings would be removed from a high population area to a low population area.
- The commercially valuable property at the mill site could be released for unrestricted use.

- Removal of the tailings impoundment from the floodplain of the Colorado River and Moab Wash.

Disadvantages:

- Increased time to complete reclamation of the tailings over Alternative 1. This would prevent both Atlas and Rio Algom from meeting their respective deadlines for completion of the final earthen cover to limit radon emissions to a flux of no more than 20 pCi/m²/s, as established in the MOU between the NRC and EPA. Atlas and Rio Algom have the same completion date for final cover placement - December 31, 1996.
- Extensive use of nonrenewable energy resources (fossil fuels) for transportation of the tailings to the Lisbon impoundment.
- The cost of transportation and disposal at Lisbon would be about 20 times greater than reclamation in place, and more than three times the cost for either Alternatives 2 or 3.
- The potential impact on worker safety, radiological exposure, and environmental protection would be increased over Alternative 1.
- Transportation of tailings by truck would bring the tailings through the town of Moab. This would increase the accident and exposure potential to residents, and negatively impact tourism due to trucks in town and on the highways.
- There would be a potential for contamination of lands previously uncontaminated by transportation of tailings to Lisbon.

D. Evaluation of Reclamation Actions

This evaluation is mainly focused on Atlas' preferred option, Alternative 1, reclamation of the tailings in place, although much of the review could be applied to all the alternatives.

(1) Unavoidable Adverse Environmental Impacts

An unavoidable impact on air quality will occur. This impact will primarily result from emissions from earth moving activities. Dust and hydrocarbons will both be produced during construction activities. These emissions will be temporary and are not considered significant contributors to any decline in the air quality of the region. Dust control to the extent practicable, will be required by Atlas to maintain good air quality for health and safety purposes.

During reclamation, specific areas will be disturbed for borrow material and the cleanup of windblown tailings. However, this disturbance will be of a temporary nature with no long-term adverse consequences.

Moving clean soils from borrow areas for cover design will be a primary operation during reclamation activities. This action will disrupt the established physical, chemical, and biotic soil processes, which could take years to become reestablished. Compaction of soils by heavy construction equipment will reduce water infiltration and natural aeration. Ripping, fertilization, and planting should reduce these impacts over the long-term.

Loss of habitat for some fauna and flora will occur on a limited scale. Habitat removal will be temporary, and when reclamation is complete, a net increase in habitat should occur for those few species impacted by construction. No sensitive species, including those species living in the Colorado River, are expected to be adversely affected over the long term, and possibly a net increase in quality of habitat will result from reclamation due to stabilization of the environment and limited human encroachment.

The land taken out of use by the tailings impoundment is economically valuable due to its proximity to the Colorado River and the city of Moab. The loss of this land for most development purposes is an unavoidable impact on the area. Although this land will be taken out of active economic development for some commercial enterprises, limited uses can be approved by the Department of Energy (DOE) and the NRC. Further, the impoundment should present a limited visual impact to the local area because of the use of gentle slopes and riprap (rock) indigenous to the region.

A minor deterioration to the ground water and possibly to the waters of the Colorado River could occur until reclamation is complete. This condition will steadily improve as the pile dries out and reclamation proceeds. Ground-water monitoring will be maintained to assure that ground-water corrective actions are effective until a determination has been made that there is no adverse effect.

(2) Potential Accidents

Because of the nature of the project, the potential for accidents is considered small. The use of heavy equipment off road, during construction, always contains an element of unpredictability. The normally slow speeds that construction equipment operate at, along with an occupational safety program that complies with OSHA requirements, should reduce the chances of severe accidents.

Accidents involving the release of large quantities of radioactive material are very remote. The design of the tailings impoundment

will contain and protect the tailings from any known mass release for 1000 years, to the extent reasonably achievable, and in any event for 200 years.

(3) Irreversible and Irretrievable Commitments of Resources

No known or currently commercially valuable mineral resources will be taken out of use by realization of the project. The small amount of ambient air to be affected by operation of the construction equipment is minor in terms of the positive accomplishment to be gained by long-term tailings isolation. The area of the tailings impoundment will be restricted for future development of man's activities. Commitments of fossil fuels, machinery, and construction materials will be required to complete the project. None of these resources are currently in short supply. Also, large quantities of graded riprap will be used to protect the reclaimed tailings from erosion. This material is in short supply locally but can be obtained regionally with little difficulty.

(4) Relationship Between Short-Term Uses and Long-Term Productivity of Man's Environment

The short-term increases in particulates generated, combustion products emitted, and miscellaneous spills during reclamation are expected to have no long-term impact on the environment of the region. There will be short-term blowing of tailings prior to and during construction, but after closure the blowing of tailings will be eliminated.

In the short-term, the mill area will be typical of a construction site; but as reclamation progresses, the final design will emerge. The final grades of the reclaimed pile should allow it to aesthetically blend into the local landscape creating visual continuity to the extent reasonably achievable.

Displacement of flora and fauna will occur during reclamation activities. Although the tailings area may be excluded from further direct productive uses of man's environment, the benefit to endemic native biota will be enhanced over the long-term due to the absence of human activity. This could also indirectly benefit the Moab March across the Colorado River.

In the short-term, there will be a slight increase in radiological releases as the tailings are reclaimed, but over the long-term, the isolation of the tailings under an engineered cover to limit radon flux to less than 20 pCi/M²/s and to maintain direct radiation levels to near background values will benefit man's environment.

(5) Socioeconomic Impacts

The closure of the mill in 1984 produced a significant economic and societal shock to the Moab community. Moab, after mill closure, lost a significant number of people. The economic base of the community had to change from uranium production to tourism and light industry to remain viable. The socioeconomic impacts of the reclamation of the tailings impoundment is minor, relative to mill closure. Some short-term jobs will be created for construction workers, but these jobs will be of a temporary nature, very similar to other temporary work in the region such as highway construction. Therefore, the social stress on workers and their families is considered to be short-term for the reclamation operation and will not extend into the future.

(6) Cost-Benefit Balance of Environmental Action

The licensee's projected cost of full reclamation of the tailings in place is approximately \$6,500,000. This figure will be adjusted as necessary when the revised reclamation plan is approved and a new surety is calculated. The health benefits obtained from disposal of the radioactive materials are considered to outweigh the costs. This determination is based on the improvements to surface and ground-water quality, air quality (radon), and socioeconomic stability.

6.0 ENVIRONMENTAL MONITORING

A. Meteorological Monitoring

Atlas conducted meteorological monitoring through 1984, when the mill ceased operations. This data consisted of wind speed and wind direction. Currently weather conditions are monitored by site personnel using visual observations. Observations are made for blowing of dust at the tailings impoundment. Corrective actions such as dust suppression are taken in response to these observations. Atlas currently has no plans to install a meteorological monitoring station, nor does the NRC require them to do so.

B. Hydrological Monitoring

During reclamation, Atlas is required by License Condition No. 17 of Source Material License SUA-917 to monitor for a suite of indicator parameters to determine compliance with ground-water standards and maintenance of water quality. Ground-water monitoring will continue during and after reclamation until the NRC has determined that full compliance is obtained. Ground-water monitoring will also be a part of the Long Term Surveillance Plan, as required by 10 CFR 40.28.

Atlas is also monitoring the Colorado River above and below the facility during reclamation activities. Waters collected from the river are analyzed for specific radionuclides to determine if reclamation

activities have impacted the river. These data are tabulated and reported to the NRC semiannually in accordance with License Condition No. 48.

C. Ecological Monitoring

Atlas has no specific plans to conduct special ecological monitoring. The four endangered fish identified by the U.S. Fish and Wildlife Service, which may occur in the Colorado River adjacent to the mill site, should not be negatively impacted by the reclamation project. No other ecological monitoring needs have been identified during the environmental assessment.

D. Radiological Monitoring

Atlas maintains five environmental monitoring stations. Of the five monitors, three are perimeter monitors located near the site boundary, one is an effects station located at Arches National Park, and the final station, a background monitor, is located 2 miles south of the mill. Each station monitors continuously for radon-222, natural uranium, thorium-230, radium-226, and lead-210. These data are reported to the NRC semiannually as required by the license. Vegetation and soil samples are collected regularly near the mill, and the results of the radiological analysis reported to the NRC. Surface and ground-water samples are also collected and analyzed for indicator parameters including radiological species.

7.0 PERMITS AND APPROVALS

A. For Reclamation of Tailings at Their Existing Location

- Authorization from the Army Corps of Engineers for activities near the Colorado River and Moab Wash under Section 404 of the Clean Water Act.
- Authorization from the State of Utah for excavation of quarry and borrow materials for reclamation activities.

B. For Reclamation of Tailings at the Proposed Sites

- Authorization from the State of Utah for excavation of quarry and borrow materials for construction at the proposed disposal sites.
- Concurrence by the State Historic Preservation Office, Federal Advisory Council on Historic Preservation, and the NRC under the National Historic Preservation Act that no cultural resources will be impacted by the project.

8.0 STAFF EVALUATION OF ATLAS' PROPOSAL AND ALTERNATIVES

Atlas submitted their supplement to the Environmental Report addressing the reclamation activities for the Moab Mill as required by Criterion 9 of

Appendix A to 10 CFR 40. That supplement reviewed the primary option (Alternative 1) for the reclamation of the tailings in place, and three alternatives to the primary option. The staff evaluated the primary option, the no action alternative, along with disposal at other locations, and has determined that the primary option exhibits the least impacts to the environment while accomplishing the goal of tailings reclamation.

Moving the tailings to a new location as proposed in Alternatives 2 and 3 would cause a short term increase in radiation exposures for the public and the workers involved. Movement of the tailings to the existing facility at Lisbon would also temporarily increase exposures to the workers and public with the undesirable consequences of trucking the material through the city of Moab. Also, movement of the tailings would increase the chances of industrial accidents and incidents over reclamation in place. Transportation of the tailings by any of the following means: pipeline, railroad, conveyor, or truck, could result in contamination of lands previously uncontaminated.

The economic costs and the expenditures of resources in terms of human effort, fossil fuels, and tangible goods in moving the tailings to a new location would not realize a net benefit over disposal in place. The time involved in moving the tailings in Alternatives 2, 3, and 4 would prohibit the timely completion of the reclamation project under the Memorandum of Understanding between the Nuclear Regulatory Commission and the Environmental Protection Agency as discussed in Section 5(C) above.

A review of the estimated costs for each of the alternatives demonstrates that reclamation in place (Alternative 1) is about five times more cost effective than to move the tailings and contaminated materials to the nearest suitable site (Alternative 2), 11 km to the northwest. Also, transportation and disposal of the tailings and contaminated materials at the Lisbon facility (Alternative 4) would cost about twenty times that of reclamation in place. Alternative 3, moving the tailings and contaminated materials 24 km to the northwest, would cost about six times more than Alternative 1.

Allowing the tailings to be disposed in-place using the applicable requirements as defined in Appendix A to 10 CFR Part 40, appears to be the best option while providing for reasonable socioeconomic, radiological, and environmental impacts. Criterion 3 of Appendix A states that the primary option for tailings disposal is placement below grade. This criterion will not be met with disposal in place at the site; however the proposed design, as determined by staff review for the impoundment structure, will provide adequate isolation of the tailings from natural erosional forces. See Memorandum to Docket 40-3453, "Proposed Amendment to Source Material License SUA-917 for Reclamation and Closure of Atlas Corporation's Moab Mill Disposal Area Near Moab, Utah," filed concurrently with this document.

After an assessment of the alternatives, in addition to the need for the action, the staff has determined that Alternative 1, reclamation of the tailings in their current location, is the best option and the most effective in terms of reducing environmental degradation, preventing excessive radiological exposure, and maintaining resource effectiveness. No overall increase in public health and safety will be realized by relocating the

tailings to Alternatives 2, and 3. These sites do not exhibit characteristics that would make them significantly better than that of the existing site. In Alternative 4, aside from the radiological and safety concerns with transportation through the city of Moab, the vast amount of tailings and contaminated materials to be moved to the Lisbon site makes this option economically impractical.

The staff concluded that reclamation of the tailings in accordance with the licensee's preferred alternative will not have a significant impact on the environment. Short-term impacts to the environment will be minimal, while long-term impacts will be reduced to levels determined to be acceptable by promulgation of Appendix A to 10 CFR 40. The staff therefore concludes that, based on the findings of the environmental assessment, an environmental impact statement need not be prepared, and a Finding of No Significant Impact should be published in the Federal Register.

9.0 BIBLIOGRAPHY

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Atlas Corporation Reclamation Plan, Uranium Mill and Tailings Disposal Area, Report, June 4, 1992, revised April 14 and 23, 1993.

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Environmental Report, Moab Utah Facility, August 31, 1973.

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Final Generic Environmental Impact Statement, Uranium Milling Vols. I, II, and III, September 1980.

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Report, Conceptual Design and Cost Estimate, Tailings Pile Reclamation, July 10, 1981.

Safety Analysis Report, Atlas Minerals Division, Atlas Corporation, Moab Uranium Mill, Revision 1, August 28, 1975.

Tailings Management and Reclamation Alternatives Study for Atlas Minerals Mill at Moab, Utah-Revised, Dames & Moore, Salt Lake City, Utah, October 14, 1977.

COMMENTS ON TER AND EA

ATLAS

GARY A. HAZEN, 8/3/93 LETTER

- a. Extend comment period.
- b. Move the tailings out of the floodplain.
- c. Concerned about the possibility of contaminating Colorado River water which 40 million Americans rely on down river.

LINDA SEIBERT, 7/30/93 LETTER

- a. Refers to Mr. Christie's article in local paper, particularly section 2 of that article.

CHRISTIE'S ARTICLE:

1. "Pumping" of leachate out of tailing by high waters.
 2. Final grades with heavy load of rock may effect the slimes and eventually the floodplain.
 3. Atlas tailings is sitting directly on Moab Fault.
- b. The NRC's EA process is flawed (not similar to the Fed Agency that Seibert works for).
 - c. Did the NRC conduct sediment and fish monitoring in the Colorado R.
 - d. Extend the comment period.

STEVE MULLIGAN, 8/6/93 FAXED FROM HQ

- a. Move the tailings out of the floodplain.
- b. Agrees with Christie's article in local paper.

JOHN LEVORSKI, 8/8/93 LETTER

- a. Move the tailings out of the floodplain.
- b. Contamination of the Colorado River.

BILL HEDDIN, GRAND COUNTY COUNCIL, 8/7/93 LETTER

LENGTHY RESPONSE, 9 pages

- a. Move the tailings, examples from Title 1 Program.
- b. Outdated data for EA, especially financial.
- c. Critical of advantages and disadvantages of alternatives.
- d. Critiques the Criteria 1 through 10.
- e. Money was the only reason tailings left in place...NRC concerned for Atlas's financial interest.

TOM BUDLONG, 8/6/93 LETTER

- a. Extend the comment period.

PETER HANEY, GRAND COUNTY COUNCIL, 8/13/93 LETTER**LENGTHY RESPONSE, 11 pages**

- a. NRC did not follow Executive Order 11988, Floodplain Management, (contained in 40 CFR 6, Appendix A).
- b. Atlas may not be eligible for DOE Title 10 moneys due to not meeting the NEPA process.
- c. Composition of tailings are not complete.
- d. GEIS in disagreement with EA. Catastrophic release.
- e. Typo on tailings elevation.
- f. Pile in place would be "eyesore of monolithic proportions."
- g. Transportation costs in error for alternatives.
- h. Concern on the ground water if capped in place.
- i. NRC must have Atlas conduct fish sampling in Colorado River.
- j. Cancer rate high in Grand County due to radon from tailings.
- k. Arches NP is "across the street," not 2 miles away.
- l. Critical of our interpretation of Criterion 3 and 4. (3 below grade. 4 slopes.)
- m. Relocating the pile would free up land along the Co. River.
- n. Move the tailings out of the floodplain.
- o. Impacts to public health, public safety and environment have not been answered.
- p. Length of EA is too long.
- xyz Many other minor questions not addressed here.

L. E. OPARKA, 8/10/93, LETTER**NONE OF THE QUESTIONS RELATE TO ATLAS' TER/EA**

- a. Requested reclamation plan.
- b. Concerned about Monticello tailings.
- c. What responsibility does Atlas have for tailings near Mexican Hat?
- d. What obligations does Atlas have for uranium mines in Lisbon Valley?
- e. What obligations do the mine operators have for mines in the San Rafael Swell and Temple Mountain areas?

SUSAN ULERY, MELANIE ALLARDALE, SHARI SIMMONS, DONOVAN ROBERTS, 8/5/93, LETTER

- a. Move pile out of floodplain. Elevation of river near that of base of tailings pile.
- b. Spend "our" tax money to cap in place.
- c. Cost estimates are incorrect and outdated.
- d. Move pile off of Moab fault.

JEREMY WARREN, SOUTHERN UTAH WILDERNESS ALLIANCE, 8/12/93 LETTER**LENGTHY RESPONSE, 9 pages**

- a. Critical of Criterion 1, erosion, hydrology, population...
- b. Critical of Criterion 3, below grade disposal.
- c. Critical of Criterion 4, slopes are too steep, Moab fault.
- d. Critical of Criterion 5, must use a liner.
- e. Critical of Criterion 6, it will not last 200 yrs if it does not meet criteria 1 through 5.

- f. Economics of alternatives no up to date.
- g. Did not completely address the alternatives.
- h. NRC must perform an EIS due to the wealth of public concern.

WILLIAM J. SINCLAIR, STATE OF UTAH, DEQ/DRG. 8/17/93 LETTER

RESPONSE, 8 pages

Environmental Assessment

- a. Ground water pollution. 75 yrs vs Dec. 1998 completion.
- b. Incremental degradation of Colorado R. vs dilution.
- c. Where is NRC's analysis of the impacts associated with the mixing zone- fish, wildlife, and rafter?
- d. Tourist population on increase.
- e. Quantify the costs of the loss of the land within the tailings imp.
- f. Perception of danger of tailings pile to tourist if left in place.
- g. Wetlands/floodplain degradation between T-pile and Co. River.
- h. Ecological risks at the mixing zone (refer to c).
- i. Increased oil production may increase seismic risks.
- j. NRC must conduct a risk analysis of leaving the tailings pile in place as apposed to relocation.
- k. Cost estimates are outdated and need to be revised.
- l. State permits needed for reclamation - air quality, and gw discharge.
- m. Oil extraction>seismic> stability of structure and liquefaction.
- n. Tailings need a thicker clay cap due to settlement and cracking.
- o. Thicker clay cap needed due to desiccation.
- p. Modeling on clay barrier and effects on gw cleanup.
- q. Erosion protection plan should be approved concurrently with Rec. Plan.
- r. Riprap should be placed 3 feet below grade bordering the Moab Wash.
- s. NRC should use dryer moisture content of tailings.
- t. Thickness of clay barrier reviewed. Four reasons why it should be thicker - 1) placement by heavy equipment, 2) defects in clay, 3) differential settlement, 4) desiccation and cracking.

Review of TER:

- a. Critical of NRC's interpretation of Criterion 1 - population, groundwater impacts, erosion, active maintenance, siting criteria, and long-term isolation.
- b. Critical of Criterion 3 - below grade and long term care.
- c. More on Cr 3 - slopes exceed recommendations and no reason why exc.
- d. Critical of Cr 5 - gw standards not met.

MIKE DMITRICH, SENATOR, UTAH STATE SENATE, 8/17/93 LETTER

- a. Opposed to capping the tailings in place.
- b. Strongly favors Alternative 2, moving the pile 11 km to NW.
- c. Capping in place will leave an ugly scar on Moab and nearby NPs.
- d. In place disposal will rob Moab of needed commercial/indust land.

ROD GREENOUGH, NATIONAL PARKS AND CONSERVATION ASSOCIATION, 8/25/93 LETTER

- a. Public controversy warrant EIS as required by 40 CFR 1500.
- b. Action will impact air quality, water quality, aquatic & riparian ecosystems, and scenic values of the NP system.

Park Related Impacts

- a. Ground water seepage will impact river and down stream riparian ecosystems (endangered fish) and effect Canyonlands NP, Glen C.
- b. Floods and earthquakes failure of impoundment damage to NP system.
- c. Sand cap will erode release airborne tailings threaten ecology of Arches NP.
- d. 700,000 visitors to Arches will see blight, ruin enjoyment.
- e. Channelize Moab Wash within or on the boundary of Arches, impair scenic qualities and alter natural landscape.

Non-park Related Impacts

- a. Contamination of ground water and Colorado River.
- b. Air quality degradation.
- c. Adverse impact on tourist trade.
- d. Flood and earthquake related risks.
- e. Failure to meet 10 CFR 40 App A design criteria.

Conclusion statement

An EIS would uncover additional issues. NRC using unreliable costs, incomplete and outdated information, and artificial deadline. EIS needed to consider alternatives, long term economics, environmental costs, and human costs.

BRUCE HARRISON, 8/3/93 LETTER

- a. Big money interest keeps tailings in place.
- b. Tailings remain in place is an un safe plan.
- c. Moving pile could be cheaper than in place burial, may have to move pile later anyway.
- d. FONSI is inaccurate.

R. S. HIGGINS, LETTER TO UTAH DEQ, 8/22/93

- a. Radon gas will escape from pile even with x amount of rock and earth over the tailings.
- b. Long discussion on inversions and low pressures increasing radon concentrations in the Moab area. Move the pile.

**DEPARTMENT OF THE INTERIOR, DRAFT, FAX, 8/31/93
VERY CRITICAL REVIEW PROFESSIONALLY DONE**

- a. General Comment - ...an unlined tailings pile on porous alluvial aquifer on the flood plain of Co. River represents threat to NPS. Potential water quality impacts.
- b. EA does not contain list of agencies and persons contacted - USFWS, NPS Units, BLM ...
- c. EA must review the impacts of the alternatives.
- d. EA should have addressed:
 - Radioactive elements present in the construction dust.
 - Define "temporary"
 - Define: Dust control to the extent practicable.

Effect on regional Class I and II airsheds?

How far will dust plumes be visible?

The EA lacks info necessary to evaluate impacts of covering in place.

- e. **NEED FOR AN EIS.** Reasons why an EIS are stated. Title 40, unique area - (1508.27(3), controversial (1508.27(4) and 1508.27(5).
- f. Should have gone draft FONSI 10 CFR 51.33 (b)(1).
- g. EA should have addressed catastrophic flood.
- h. NPS should have been contacted to assess the action.
- i. Economic benefits of the parks have not been addressed in the EA.
- j. Radioactive materials will end up in Lake Powell. Dilution not appropriate. Lake Powell will resuspend due to lake fluctuations.
- k. Many references. EA revised with summary including info allowing reader to understand how conclusions were reached.
- l. Alternatives not fully addressed. Used to justify preferred alt.
- m. Should not have included alternatives of movement if these were not really considered in EA. Letter to Stone 8/13/93 from Hall.
- n. Time restraints due to MOU with EPA... should not have addressed alternatives.
- o. Use of the railroad to move the tailings was not fully addressed.
- p. Cost estimates incomplete.
- q. Is the time estimate accurate for monitoring to insure stability.
- r. The EA contains no viewshed analysis. Page 5.
- s. Will the river continue to erode the bank next to the pile?
- t. Will the armor suffice? Do dikes have to be built in the future? Any stabilization costs must be included in cost/benefit ratio.
- t. If major failure, rad material in Co. R. would eliminate many uses and million in cleanup.
- u. Does the GW wells exceed the EPA standards? Last sentence page 4 of EA makes this reference but incomplete.
- v. No data in EA on affects of pollutants in river. Fish studies, backwater sediments, total food chain... fisherman's catch.
- w. Should address in detail "pumping" of contaminates from pile year after year, and the effects on endangered fish/birds.
- x. No monitoring plan for GW movement. Not enough monitoring wells. What mitigation has already occurred? Who will monitor. Costs.
- y. NPS will hold Atlas and NRC responsible for any costs due to environmental damage to any park under CERCLA. page 7

SPECIFIC COMMENTS ON ENVIRONMENTAL ASSESSMENT

- A. Are the findings of the old EIS still valid?
- B. What rock will be imported and what composition, will it blend in?
- C. Should have a computer simulated photo of impoundment to help with viewshed analysis.
- D. Rate of leaching into river?
- E. No comment on discharge rates due to river elevations.
- F. No info on short frequency floods. Short duration floods incorrect - they are long duration. No info on the number of inundations over a 1000 yrs. PMF not correctly modeled - paleoflood determinations.
- G. No local stream flow info used in estimating water velocities.
- H. Drainage off pile should be diverted to lined settling ponds.
- I. Dilution in Co. R. stated in EIS is outdated. What if tailings deposit at Lake Powell? Windblown when Lake P fluctuates.
- J. EA should have defined term "tailings liquor."

- K. No information on well pumping after capping. Where will contaminated water go? How will wells be decontaminated?
- L. Need info on contamination level in GW. No info on what causes leaching into GW. Precipitation on tailings?
- M. What is basis for GW completion date.
- N. GW flow not documented well in EA. Is there an upward movement of GW out of bedrock.
- O. Continued rise and fall of GW under pile will pull out leachate. What will be the effect of this on local GW? The river?
- P. Regional GW studies needed:
1. Head differentials between bedrock and alluvial aquifers and river.
2. Identify local and regional ground water recharge and discharge areas.
3. Effects of periodic water table fluctuations and capillary ground water rise in flushing chemical constituents from the bottom of the tailings pile.
- Q. Population figures should include tourist numbers. Should include the down stream population numbers and the effects on domestic water supplies.
- R. No mention of adjacent National Parks (2) in Use of Adjacent Land.
- S. Justify why EA used 1 km radius in Use of Adjacent Land.
- T. High wind not addressed fully.
- U. Air quality analysis should reference Class I and II adjacent areas.
- V. Radon levels should be addressed more completely. Risks? Capping?
- W. Threatened and endangered species not addressed fully. No mention of the River Otter. Food chain. Cumulative impacts.
- X. Terrestrial surveys may be incomplete.
- Y. What specifically is the "long-term beneficial effect to the ecology of the area.?"
- Z. Decontamination efforts for the site should be explained.
- AA. Data/Analysis needed for statement, if river not impacted biota not impacted.
- BB. Data presented to document low perm under tailings. This areas actions in response to water cycles.
- CC. The Moab Fault not addressed fully.
- DD. Ground water pathways affected by Moab Fault not addressed.
- EE. Seismic activity up to 1000 yrs not addressed.
- FF. Arches NP is within 300 meters of tailings not 3.5 km.
- GG. Don't understand if background rad is added to radon exposure.
- HH. Who will do the long term monitoring of the site? Not stated.
- II. EA does not provide a full comparison of the alternatives.
- JJ. Costs of capping vs moving, update the data.
- KK. Costs of well pumping over long term not addressed.
- LL. Under disadvantages of Alt 1, add impoundment failure and cleanup costs, continued leaching of material into Co. R., future stability costs if any.
- MM. More info needed on Moab Wash flooded. Conflict of statements.
- NN. EA does not adequately address moving of Moab Wash. Visual, permits, bio impacts, 50 m from Arches.
- OO. Add advantages to alt of movement of pile: no impoundment failure, below grade, no leaking of tailings.
- PP. RR transport cost should be considered.

- QQ. Clarify with data the lowering of GW contamination and dry out of tailings.
- RR. Statements on page 20 conflict with ecological theory.
- SS. Address long-term effects on ecosystems of Co. R. and L. Powell.
- TT. Socioeconomic impact on tourism is not assessed especially if tailings get into the river.
- UU. Should reevaluate if tailings released the statement on page 23 of EA concerning reduce environmental degradation, rad exposure, and resource effectiveness.
- VV. Need data to support why alts 2 & 3 are not significantly better than alt 1.

MICHAEL O. LEAVITT, GOVERNOR UTAH, 8/19/93

- a. Relative risk of leaving the pile in place and moving the pile has not been fully assessed.
- b. New EIS is warranted for determining appropriateness of moving or in place disposal for the tailings.

EDWARD Z. FOX, DIRECTOR, ARIZONA DEPARTMENT OF ENV. QUALITY, 9/3/93 LETTER

- a. Should write and EIS with complete evaluation.
- b. Ground water and Co. R. could impact tailings. Should more fully consider relocation.

MAX H. DODSON, USEPA, 9/2/93 LETTER

- a. The 1979 EIS is insufficient to address alternatives.
- b. Costs should include ground-water CAP.
- c. Force of Co. R. could erode impoundment.
- d. MOU with EPA... could work out the required date of cover.
- e. Does not meet Criterion 1, remoteness, isolation from GW, erosion, maintenance, and long term isolation.
- f. Closeness to National Park.
- g. Location in the flood plain.
- h. Off-site disposal can not be rejected solely on the basis of additional costs.
- i. NRC should prepare a Supplemental EIS.

LINDA CHERRINGTON, NORTHWEST PIPELINE CORP., 8/18/93 LETTER

**ORRIN HATCH, SENATOR, 9/1/93 LETTER
NOT A RESPONSE TO THE EA/TER**

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accordance with procedures established by the Committee.

I have determined in accordance with subsection 10(d) of Public Law 92-463 that it may be necessary to close a portion of this meeting, as noted above, to discuss matters the release of which would represent a clearly unwarranted invasion of personal privacy pursuant to 5 U.S.C. 552b(c)(6).

Inquiries regarding this notice, any subsequent changes in the status of the meeting, the filing of written statements, and requests to speak at the meeting may be made to the Designated Federal Officer, Mr. George Segs (telephone: 301/492-3904), Monday through Friday, between 8:15 a.m. and 5 p.m.

Dated: October 4, 1993.

Samuel J. Chilk,

Secretary of the Commission.

[FR Doc. 93-24796 Filed 10-7-93; 8:45 am]

BILLING CODE 7999-01-01

[Docket No. 40-3483]

Atlas Corporation

AGENCY: U.S. Nuclear Regulatory Commission.

ACTION: Notice of withdrawal of intent to amend source material license SUA-917, for the Atlas Corporation's uranium mill, near Moab, Utah, and a related finding of no significant impact regarding the proposed action.

SUMMARY: This notice withdraws the previously noticed (58 FR 38796) intent to approve the revised reclamation plan for uranium mill tailings at the Atlas Corporation's uranium mill near Moab, Utah.

ADDRESSES: Copies of the license amendment request and the staff evaluations previously noticed, as well as copies of comments received on the proposed licensing action, are available for inspection at the Uranium Recovery Field Office, 730 Simms Street, suite 100, Lakewood, Colorado, and the NRC Public Document Room, 2120 L Street, NW (Lower Level), Washington, D.C.

Comments on this notice of withdrawal may be mailed to David L. Meyer, Chief, Rules Review and Directives Branch, Office of Administration, P-223, U.S. Nuclear Regulatory Commission, Washington, D.C., 20555, with a copy to the Director, Uranium Recovery Field Office, U.S. Nuclear Regulatory Commission, P.O. Box 25325, Denver, Colorado, 80225.

FOR FURTHER INFORMATION CONTACT: Ramon E. Hall, Director, Uranium Recovery Field Office, Region IV, U.S. Nuclear Regulatory Commission, P.O.

Box 25325, Denver, Colorado, 80225. Telephone: (303) 231-5800.

SUPPLEMENTARY INFORMATION: As noticed in the July 20, 1993, Federal Register (58 FR 38796), the Nuclear Regulatory Commission had proposed amendment of Source Material License SUA-917 to incorporate a revised tailings disposal area reclamation plan for Atlas Corporation's Moab Mill located near Moab, Utah. The proposed action was supported by a Technical Evaluation, and an Environmental Assessment and a Finding of No Significant Impact. The notice had a 30-day comment period which expired August 19, 1993.

Based on comments received on this proposed action, the Nuclear Regulatory Commission is withdrawing the Notice of Intent to Amend Source Material License SUA-917 for the Atlas Corporation's Moab Mill and the related Finding of No Significant Impact. The Nuclear Regulatory Commission intends to reevaluate reclamation of the tailings in place and at alternative locations, including environmental implications, before making a decision on approval of the revised reclamation plan.

Ramon E. Hall,

Director, Uranium Recovery Field Office, Nuclear Regulatory Commission.

[FR Doc. 93-24786 Filed 10-7-93; 8:45 am]

BILLING CODE 7999-01-01

OFFICE OF THE UNITED STATES TRADE REPRESENTATIVE

Membership of the Performance Review Board (PRB)

AGENCY: Office of the United States Trade Representative.

SUMMARY: The following staff members are designated to serve on the Performance Review Board:

Performance Review Board (PRB)

Chair—Kathryn Early

Alternate Chair—John Hopkins

Members

Howard Reed

Carmen Suro-Bredie

Kellen Frost

Ira Wolf

Thomas Nides

Lorraine Green, Executive Secretary

EFFECTIVE DATE: September 28, 1993.

FOR FURTHER INFORMATION CONTACT: Lorraine Green, Director, Human Resources, (202) 395-7360.

John Hopkins,

Assistant United States Trade Representative for Administration.

[FR Doc. 93-24780 Filed 10-7-93; 8:45 am]

BILLING CODE 7999-01-01

RAILROAD RETIREMENT BOARD

Agency Forms Submitted for OMB Review

Summary: In accordance with the Paperwork Reduction Act of 1980 (44 U.S.C. chapter 35), the Railroad Retirement Board has submitted the following proposal(s) for the collection of information to the Office of Management and Budget for review and approval.

Summary of Proposal(s)

- (1) *Collection title:* Notice of Extent to Offset Federal Income Tax Refund.
- (2) *Form(s) submitted:* G-49A, G-49B.
- (3) *OMB Number:* 3220-0181.
- (4) *Expiration date of current OMB clearance:* Three years from date of OMB approval.
- (5) *Type of request:* Extension of the expiration date of a currently approved collection without any change in the substance or in the method of collection.
- (6) *Frequency of response:* On occasion.
- (7) *Respondents:* Individuals or households.
- (8) *Estimated annual number of respondents:* 300.
- (9) *Total annual responses:* 300.
- (10) *Average time per response:* .166 hours.
- (11) *Total annual reporting hours:* 50.
- (12) *Collection description:* Under Title 31 of the U.S. Code, the Railroad Retirement Board (RRB) may refer to the Internal Revenue Service for collection by tax refund offset, legally enforceable debts incurred by beneficiaries who received overpayments from the RRB. The Collection obtains information concerning the debtor's willingness to pay some or all of such debts or to state reasons for not doing so.

Additional Information or Comments:

Copies of the form and supporting documents can be obtained from Dennis Egan, the agency clearance officer (312-751-4693.) Comments regarding the information collection should be addressed to Ronald J. Hodapp, Railroad Retirement Board, 844 North Rush Street, Chicago, Illinois 60611-2092 and the OMB reviewer, Laura Oliven (202-395-7316), Office of Management and Budget, room 3002, New Executive Office Building, Washington, DC 20503.

Dennis Egan,

Clearance Officer.

[FR Doc. 93-24736 Filed 10-7-93; 8:45 am]

BILLING CODE 7999-01-01

The Commission's related evaluation of the amendment, finding of emergency circumstances, and final determination of no significant hazards consideration are contained in a Safety Evaluation dated March 14, 1994.

Local Public Document Room location: The Vespasian Warner Public Library, 120 West Johnson Street, Clinton, Illinois 61727.

Indiana Michigan Power Company, Docket No. 50-315, Donald C. Cook, Nuclear Plant, Unit No. 1, Berrien County, Michigan

Date of application for amendment: December 15, 1993, as supplemented February 15 and 24, 1994 (December 15, 1993, application supersedes the licensee's March 10, 1993 application.)

Brief description of amendment: The amendment revises the Technical Specifications to allow the continuance of voltage-based steam generator tube plugging criteria for outside-diameter stress corrosion cracking at tube support plate elevations. The amendment allows the use of a 2.0 volt interim repair criterion for Cycle 14 operation.

Date of issuance: March 15, 1994

Effective date: March 15, 1994

Amendment No.: 178

Facility Operating License No. DPR-58. Amendment revises the Technical Specifications. Public comments requested as to proposed no significant hazards consideration. Yes. The December 15, 1993, application was noticed in the **Federal Register** on January 5, 1994 (59 FR 621). The NRC also published a public notice of the proposed amendment, issued a proposed finding of no significant hazards consideration, and requested that any comments on the proposed finding be provided to the staff by the close of business on March 7, 1994. The notice was published in the South Haven Tribune on March 1, 1994, and in the Herald-Palladium on March 2, 1994. No comments have been received.

The Commission's related evaluation of the amendment, finding of exigent circumstances, consultation with the State of Michigan, and final determination of no significant hazards consideration are contained in a Safety Evaluation dated March 15, 1994.

Attorney for licensee: Gerald Charnoff, Esq., Shaw, Pittman, Potts and Trowbridge, 2300 N Street, NW, Washington, DC 20037

Local Public Document Room location: Maud Preston Palenske Memorial Library, 500 Market Street, St. Joseph, Michigan 49085.

NRC Project Director: Ledyard B. Marsh

Indiana Michigan Power Company, Docket No. 50-315, Donald C. Cook, Nuclear Plant, Unit No. 1, Berrien County, Michigan

Date of application for amendment: February 15, 1994

Brief description of amendment: The amendment revises the Technical Specifications

Date of issuance: March 14, 1994

Effective date: March 14, 1994

Amendment No.: 177

Facility Operating License No. DPR-58. Amendment revises the Technical Specifications. Public comments requested as to proposed no significant hazards consideration. Yes. The NRC published a public notice of the proposed amendment, issued a proposed finding of no significant hazards consideration, and requested that any comments on the proposed finding be provided to the staff by the close of business on March 7, 1994. The notice was published in the South Haven Tribune on March 1, 1994, and in the Herald-Palladium on March 2, 1994. No comments have been received.

The Commission's related evaluation of the amendment, finding of exigent circumstances, consultation with the State of Michigan, and final determination of no significant hazards consideration are contained in a Safety Evaluation dated March 14, 1994

Attorney for licensee: Gerald Charnoff, Esq., Shaw, Pittman, Potts and Trowbridge, 2300 N Street, NW, Washington, DC 20037

Local Public Document Room location: Maud Preston Palenske Memorial Library, 500 Market Street, St. Joseph, Michigan 49085.

NRC Project Director: Ledyard B. Marsh

Dated at Rockville, Maryland, this 23rd day March 1994.

For the Nuclear Regulatory Commission.

Steven A. Varga,

Director, Division of Reactor Projects - I/II, Office of Nuclear Reactor Regulation

[Doc. 94-7331 Filed 3-29-94; 8:45 am]

BILLING CODE 7590-01-F

NUCLEAR REGULATORY COMMISSION

Reclamation of Atlas Corporation's Uranium Mill Facility at Moab, UT: Intent To Prepare an Environmental Impact Statement and To Conduct a Scoping Process

AGENCY: Nuclear Regulatory Commission.

ACTION: Notice of intent to prepare an Environmental Impact Statement (EIS)

and conduct a scoping process for the EIS including a scoping meeting.

SUMMARY: The NRC intends to prepare an EIS for the decommissioning and reclamation of the Atlas Corporation's (Atlas) uranium mill facility at Moab, Utah. Atlas has been licensed by the NRC to process ores (source material) to produce uranium, in the form of yellowcake. As a result of processing ores, the facility produced a large quantity of sand and slime tailings which contain much of the radioactive materials from the ore in the form of daughter products. Atlas no longer actively processes ore at the Moab, Utah mill. It is however, decommissioning the mill, and has submitted a revised reclamation plan to NRC which, like the reclamation plan approved by NRC in 1982, proposes on-site stabilization of the tailings. This notice indicates NRC's intent to prepare an EIS in conjunction with this proposed action and to conduct a scoping process that will include a public scoping meeting.

Written comments on matters covered by this notice received by May 13, 1994, will be considered in developing the scope of the EIS. Comments received after this date will be considered if it is practical to do so, but the NRC is able to assure consideration only for comments received on or before this date.

ADDRESSES: Written comments on the matters covered by this notice should be sent to: Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555. ATTN: Docketing and Services Branch. Hand deliver comments to 11555 Rockville Pike, Rockville, Maryland 20852, between 7:45 a.m. and 4:15 p.m., on Federal workdays.

The scoping meeting will be held at Starr Hall, 155 East Center Street, Moab, Utah, on Thursday, April 14, 1994, from 7-10 pm.

FOR FURTHER INFORMATION CONTACT: Allan Mullins, Office of Nuclear Material Safety and Safeguards, Washington, DC 20555, Telephone: 301-504-2578.

SUPPLEMENTARY INFORMATION:

Background

The NRC has the statutory responsibility for protection of public health and safety and the environment related to the use of source, byproduct, and special nuclear material under the Atomic Energy Act of 1954, as amended. One portion of this responsibility is to assure safe and timely reclamation at nuclear facilities which the NRC licenses. For the Atlas uranium mill,

reclamation would ensure the long-term stability of uranium tailings for up to 1000 years and control of radon releases to a low risk level.

In August 1988, Atlas submitted for NRC review, a revision to the tailings reclamation plan for the Moab mill which had been approved in 1982. This plan was revised by Atlas in response to NRC questions by submittals in January 1989, June 1992, and April 1993. Atlas submitted an Environmental Report Supplement in support of the reclamation plan in April 1993. This document supplemented Atlas' Environmental Report of 1973, NRC's EIS on the Moab facility of 1979, NRC's Final Generic EIS of 1980, and Atlas' license renewal application in 1984.

In July 1993, NRC staff noticed a "Finding of No Significant Impact" (FONSI), including an Environmental Assessment (EA), in the **Federal Register** in anticipation of approving the reclamation plan submitted by the licensee for onsite disposal of mill tailings. NRC received more than 20 letters with comments opposing the proposed action and identifying issues requiring additional evaluation and consideration. As a result, the FONSI was rescinded by **Federal Register** notice in October 1993. The technical evaluation is underway by NRC staff with additional information requested from the licensee.

Need for Proposed Action

Atlas is licensed by the NRC (License Number SUA-917) to possess and store source material in the form of uranium mill tailings at a site located near the town of Moab, Utah. The mill operated from 1956 until 1984 under license from NRC or the Atomic Energy Commission. It has been owned by Atlas since 1962. The mill produced 7 million cubic yards (11 million tons) of tailings during its operating life. These tailings are near the mill and are contained in a pile which covers 53 hectares (130 acres) and rises 33.5 meters (110 feet) above the adjacent land level.

Source material is no longer processed at the site and Atlas has been engaged in decommissioning the site for the last several years. A reclamation plan for onsite disposal of the mill tailings was approved by the NRC in 1982. Atlas has submitted a revised onsite reclamation plan for NRC approval which is currently being evaluated for technical adequacy and compliance with the requirements in Appendix A to 10 CFR part 40.

The NRC has determined that approval of the revised reclamation plan constitute a major Federal action and that based on the level of controversy

related to the proposed action and uncertainties associated with the unique features of the Moab site, preparation of an EIS in accordance with the National Environmental Policy Act (NEPA) and the NRC's implementing requirements in 10 CFR part 51 is warranted.

The Commission's regulations in 10 CFR part 51 contain requirements for conducting a scoping process prior to preparation of an EIS. In accordance with 10 CFR 51.26, whenever the NRC determines that it will prepare an EIS in connection with a proposed action, NRC will publish a notice of intent in the **Federal Register** stating that it will prepare an EIS and conduct an appropriate scoping process. This scoping process may include the holding of a public scoping meeting.

NRC describes, in 10 CFR 51.27, the content of the notice of intent and requires that the notice describe the proposed action and, to the extent that sufficient information is available, possible alternatives. In addition, the notice of intent is required to describe the proposed scoping process, including the role of participants, the comment process, and the need for a public scoping meeting.

In accordance with §§ 51.26 and 51.27, the proposed action and possible alternative approaches and the scoping process are discussed below.

Description of Proposed Action

The proposed action is approval by NRC of a revised reclamation plan for the mill tailings at the Moab site.

The licensee has submitted a plan which calls for the reclamation of the tailings impoundment in place, covering the tailings with a soil cover to reduce radon emanation, re-configuring the surface of the tailings impoundment to drain toward collection ditches, and flattening the embankment side slopes. The collection ditches would merge to form a drainage channel which would convey water runoff from the covered tailings surface into Moab Wash. Moab Wash would be reconfigured to convey flood level flows into the Colorado River east of the tailings pile. On the southwest side of the tailings embankment, another drainage channel would divert runoff from the natural sandstone bluffs southwest of the channel. To protect against erosion, the top of the tailings impoundment would be covered with a layer of compacted rock and soil and the embankment side slopes covered with rock native to the region.

Two alternative sites have been identified. One site is in a box canyon about 7 miles away and the other site is near the airport, about 15 miles away.

The tailings would be placed partially below grade at either site, with the pile rising approximately 11 meters (37 feet) above the ground surface. Detailed designs have not been completed for these potential sites but similar issues for erosion, floods, seismic effects, and groundwater protection would have to be considered in any detailed design. However, the environmental aspects of the sites will be addressed in the EIS.

The technical evaluation of the proposed onsite disposal of the tailings by NRC staff is in progress. The environmental evaluation will consider both onsite and offsite disposal options. The acceptability of the licensee's proposal will be determined based on the results of the technical and environmental review process.

Preparation of an Environmental Impact Statement

Under NEPA, all Federal agencies must consider the effect of their actions on the environment. Section 102(1) of NEPA requires that the policies, regulations, and public laws of the United States be interpreted and administered in accordance with the policies set forth in NEPA. It is the intent of NEPA to have Federal agencies incorporate consideration of environmental issues into their decision-making processes. NRC's regulations implementing NEPA are contained in 10 CFR part 51. To fulfill NRC's responsibilities under NEPA, NRC intends to prepare an EIS that will analyze the environmental impacts and costs of the proposed action and alternatives. Two alternative sites and the "no action" alternative will be analyzed. The scope of the EIS includes consideration of both radiological and non-radiological impacts associated with the alternative actions.

This notice announces the NRC's intent to prepare an EIS. The principal intent of the EIS is to provide a document that describes the environmental consequences of the proposed action and alternatives which will be available to support the NRC's licensing decision on the reclamation plan for the Moab site.

The Scoping Process

Participants may attend and provide oral discussion on the proposed action and possible alternatives at the public scoping meeting to be held at Starr Hall, 155 East Center Street, Moab, Utah, on Thursday, April 14, 1994, from 7 to 10 p.m. A transcript of the meeting will be prepared.

The Commission will also accept written comments on the proposed action and alternatives from the public.

Written comments should be submitted by May 13, 1994, and should be sent to: Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555. ATTN: Docketing and Services Branch. Hand deliver comments to 11555 Rockville Pike, Rockville, Maryland between 7:45 am and 4:15 pm on Federal workdays.

According to 10 CFR 51.29, the scoping process is to be used to conduct the following activities:

(a) *Define the proposed action to be the subject of the EIS.* The proposed action is the reclamation of uranium mill tailings onsite at the Atlas uranium mill facility in Moab, Utah.

(b) *Determine the scope of the EIS and the significant issues to be analyzed in depth.* The NRC is proposing to analyze the costs and impacts associated with the proposed action and alternative reclamation approaches. The following proposed outline for the EIS reflects the current NRC staff view on the scope and major topics to be dealt with in the EIS:

Proposed Outline: Environmental Impact Statement

Abstract

Executive Summary

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1. Introduction.
 - 1.1 Summary of Proposed Action and Alternatives.
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 - 3.3 Land Use.
 - 3.4 Geology/Seismology.
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4. Environmental Consequences, Monitoring, and Mitigation.
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 - 4.8 Unavoidable Adverse Environmental Impacts.

- 4.9 Relationship between Short-Term Uses of the Environment and Long-Term Productivity.
- 4.10 Irreversible and Irrecoverable Commitments of Resources.
5. Radiological Impacts.
6. Costs and Benefits Associated with Reclamation Alternatives.
 - 6.1 General.
 - 6.2 Quantifiable Socioeconomic Impacts Including Environmental Justice Considerations.
 - 6.3 The Benefit-Cost Summary.
 - 6.4 Staff Assessment.
7. Permits and Approvals.
8. List of Preparers.
9. List of Agencies, Organizations, and Persons Contacted.
10. Distribution List Receiving Copies of the Draft EIS.
11. References.

Appendix A—Reserved for Comments on DEIS.

Appendix B—Results of Scoping Process.

(c) *Identify and eliminate from detailed study issues which are not significant or which are peripheral or which have been covered by prior environmental review.* The decommissioning plan for the mill facility was approved by NRC in November 1988 and amended in September 1991. The mill property will be reclaimed and decontaminated to U.S. Environmental Protection Agency (EPA) standards allowing for unrestricted use, thus mitigating any adverse effects. Extensive water monitoring has identified no contamination in the Colorado River; therefore, there are no effects on river biota, and they will not be assessed. There should be no harmful impacts on terrestrial biota and no assessment is required, as the tailings pile will be covered and radon emanations reduced to comply with EPA standards. Rock armor will prevent burrowing animals from intruding into the tailings.

(d) *Identify any Environmental Assessments or EISs that are related but are not part of the scope of this EIS.* The operational aspects of the Atlas Moab mill facility were considered in the EIS completed in January 1979. A Generic EIS on Uranium Milling was completed in September 1980. An EA of the proposed reclamation plan was completed and noticed in the **Federal Register** on July 20, 1993. Based on issues identified in comments received on the EA, NRC determined that an EIS was required for the proposed action.

(e) *Identify other environmental review or consultation requirements related to the proposed action.* NRC will consult with other Federal, State, and local agencies that have jurisdiction or interests in the Moab site. For example, NRC has already been coordinating its

technical review activities for the Moab site with EPA, the U.S. Department of Interior, the Utah Department of Environmental Quality, Division of Radiation Control, and the Grand County Council. NRC anticipates continued consultation with these and other agencies, as appropriate, during the development of the EIS. In addition, the Endangered Species Act and the National Historic Preservation Act require coordination with the U.S. Fish and Wildlife Service and the Utah State Historical Society.

(f) *Indicate the relationship between the timing of the preparation of environmental analysis and the Commission's tentative planning and decision making schedule.* NRC intends to prepare and issue for public comment a draft EIS in October 1994. The comment period would be for 45 days. The final EIS is scheduled for publication in April 1995. Subsequent to completion of the final EIS, the NRC will act on a license amendment approving a reclamation plan for the site.

(g) *Describe the means by which the EIS will be prepared.* NRC will prepare the draft EIS according to the requirements in 10 CFR part 51. The EIS will be prepared by the NRC staff and Oak Ridge National Laboratory which has been contracted to provide technical assistance in the preparation of the EIS. In addition, NRC anticipates requesting specific information from the licensee to support preparation of the EIS. Any information received from the licensee related to the EIS will be available for public review, unless the information is protected from public disclosure in accordance with NRC requirements in 10 CFR 2.790.

In the scoping process, participants are invited to speak or submit written comments, as noted above, on any or all of the areas described above. In accordance with 10 CFR 51.29, at the conclusion of the scoping process, NRC will prepare a concise summary of the determinations and conclusions reached, including the significant issues identified, and will send a copy to each participant in the scoping process.

Dated at Rockville, Maryland, this 23d day of March, 1994.

For the U.S. Nuclear Regulatory Commission.

Joseph J. Holonich,

Acting Chief, Uranium Recovery Branch, Division of Low-Level Waste Management and Decommissioning, Office of Nuclear Material Safety and Safeguards.

[FR Doc. 94-7506 Filed 3-29-94; 8:45 am]

BILLING CODE 7590-01-M